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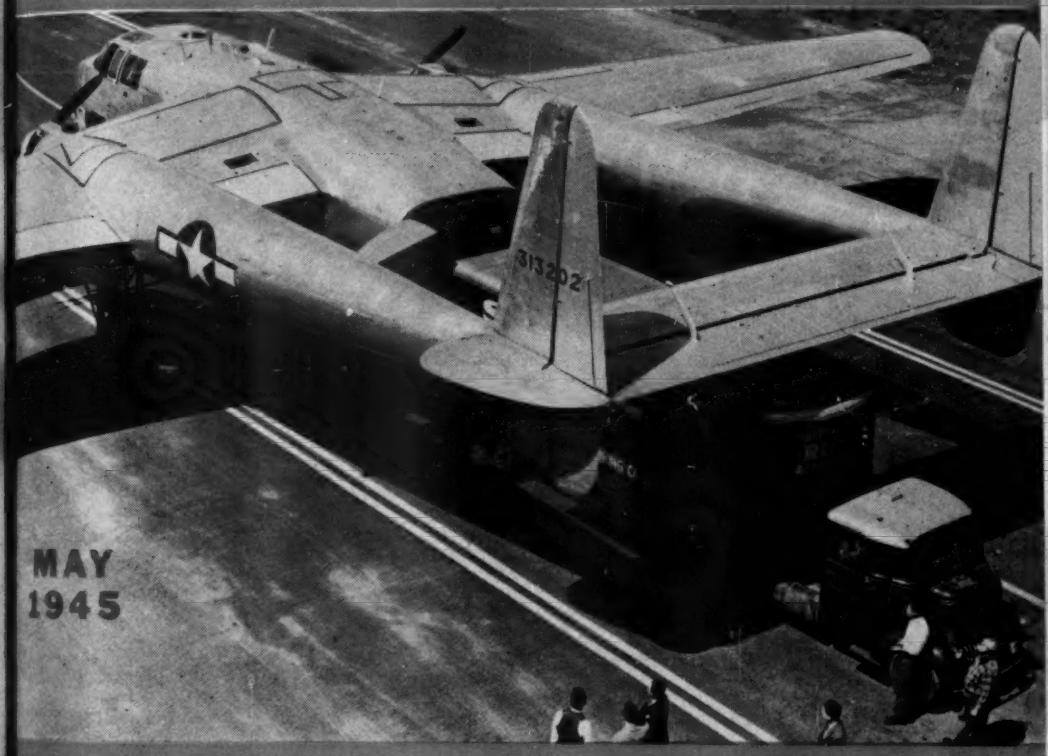

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MAY
1945

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THE COVER—A trailer-truck backs up under the shadow of the giant twin-tail boom of the Fairchild* Packet *to transfer tons of cargo destined for speedy delivery to a distant point.

JOHN F. BUDD, *Editor and Publisher*

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MEET THE CARGO CLERK . . .

GI-Style

You'll be hearing a lot about the cargo flight traffic clerk. Here he is in action for the Army, performing his vital duties on a cargo run from Michigan to New Jersey. It's war materials today; refrigerators, washing machines, and phonographs tomorrow.

By SERGEANT ROBERT F. SHAW
Ferrying Division, Air Transport Command

WHEN cargo planes of Military Air Transport, a component of the Ferrying Division, Air Transport Command, wing through the country's skies with high priority war freight, the fulfillment of their daily mission is made possible by the teamwork of three men—pilot, co-pilot and, newest and least publicized member of the crew, the flight traffic clerk.

The role of domestic cargo flight traffic clerk was created by Military Air Transport last summer to relieve pilots of the details of supervising cargo handling and is being filled entirely by enlisted personnel. That these MAT-trained men are delivering the goods on an important job is now a matter of record.

For a close look at these flying clerks in action, let's take a post on the loading platform of the Third Ferrying Group Air Freight Depot at the Romulus, Michigan, Army Air Field on a rainy fall afternoon. We are awaiting the arrival of 43-15127, a C-47 operating today on the Chicago-Newark run.

Out of the west comes the approaching drone of powerful engines as 5127 feels its way through the murk and rain. Over the field once and then back to touch down on the runway, the sturdy ship taxies alongside the depot. Its double doors swing open and down the steps scrambles a corporal. A pick-up truck, which has been standing by, rolls up to the plane, and the corporal, pushing his cap back on his head, scans the sheaf of papers he carries under his arm.

"Those six propellers just inside the door come off," he says. "Anything on?"

The answer is no and the corporal proceeds immediately into the air freight office to obtain transport and cargo clearance from the officer there. By means of a slide-rule adapted to the requirements of load distribution work and called the "load adjuster," he determines quickly what changes in cargo placement, if any, will be necessary to give 5127 the proper balance on its trip to Buffalo. He also takes into account the additional consideration that the freight must be placed on the ship with due regard for the order in which it is to be taken off at intermediate points.

Receiving clearance from the officer on the figure data appearing on the weight and balance sheet, which indicates that a minor adjustment in the load will be required, the corporal returns to his ship just as a gasoline truck arrives on the scene.

"With this weather, you'd better put in an extra hundred," he tells the driver. "Might have to go right through to Newark. Weather's closing in on both Buffalo and Rome."

"Okay," grins the gasoline jockey.

The corporal reenters the ship and checks carefully on the new positioning of the cargo, making certain that all pieces are being

RIGHT IN THERE, SOLDIERS—Cargo Clerk Corporal Leslie J. Moran of the Third Ferrying Group, ATC, at Romulus, Michigan, points out the way to the loading crew. Proper load distribution and the order in which cargo will be removed is important.

tied in securely by the loading crew.

A few words with the pilot reveals that the weather ahead is definitely on the soupy side, but that the Buffalo field still is open. The ship is almost ready to leave now, and the corporal glances around anxiously for his two passengers—soldiers headed for home on emergency furloughs after two years overseas. With proper military orders and very high priority, it is possible for men on such furloughs to obtain rides on cargo planes.

"Now where did those two guys get to?" he mutters; and then, spying them in conversation at the corner of the depot, a big sweep of his arm. "Come on," he shouts—advice which is almost swallowed up by 5127's roaring engines.

He assures himself that all gasoline tank caps are screwed on tightly. "Don't want any gas to blow out because one comes off," he smiles. "Not on a day like this especially."

Closing and fastening the ship's doors, he proceeds to his flight post at the navigator's table behind the pilots, glancing at the cargo like an anxious mother as he goes by and cautioning his two passengers to fasten their safety belts for the take-off.

As 5127 taxies to the head of the runway and is okayed for take-off by the control tower, the corporal is busy with his records. Assured that he doesn't mind, we peer over his shoulder and watch his pencil trace out another chapter in the figure history of this flight—arrival and departure times, gasoline added, distance to the next stop, weight of cargo and passengers off and on, present cargo and passenger weights, unused capacity, and other pertinent data. Meanwhile, the landscape, visible through the slit window at his side, flies by and then recedes as the ship climbs into the darkening eastern sky and sets its course for Buffalo.

By way of reviewing quickly the corporal's mathematical processes, he enters on the plane transit records the mail weight carried (none in this case), the weight of the passengers and their baggage (600 pounds), the cargo weight (5,000 pounds), and the total weight of these elements (5,600 pounds). He next adds the basic weight of the plane (18,644 pounds) and the total fuel weight (2,200 pounds), and combines their total (20,844 pounds) with the 5,600-pound figure previously obtained, emerging with the total gross weight figure of 26,444 pounds.

Since 26,500 pounds is the maximum allowable gross weight, he has an unused capacity of 56 pounds. But, as he is quick to point out, this is somewhat on the theoretical side because the cargo on board ofttimes is so bulky that it occupies all the space, even though it does not use up the entire weight allowance. Today, however, space conditions would have permitted adding 56 pounds more cargo if it had been available. The unused capacity, or "can" load figure, which he obtains, is wired ahead to the next stopping point to tell the freight officer there just what space is available for his use.

At length the corporal puts his papers away and sits back. Over the insistent drone of 5127's perfectly tuned power plant, this busy GI introduces us to the story *behind* flight traffic clerking.

When it was first decided, he explains, that the responsibility for air cargo could best be placed with an individual other than the pilots, a domestic flight traffic clerk's school was inaugurated at the Third Ferrying Group by Military Air Transport. Here, under the direction of a non-commissioned officer who devised the curriculum to meet requirements by the logical process of acting as the first flight clerk himself, selected men were schooled in flight clerking. Graduates of this school are now flight clerks at the Fifth Ferrying Group, Dallas, Texas; the Sixth at Long Beach, California; the Seventh at Great Falls, Montana; the Twentieth at Nashville, Tennessee; and the First Operational Training Unit, at St. Joseph, Missouri.

All flight clerks, before being accepted for duty, must pass a physical examination identical with that given pilots—an examination which is repeated periodically thereafter. Those men failing to measure up to the standard are grounded and remain grounded until such time as they can pass the physical.

Did the corporal ask to become a flight traffic clerk? Yes, most emphatically.

"I wanted to get into air work, and flight

clerking seemed to be what I was looking for," is the way he puts it. "Before I went into the army, I had worked at the Rome, New York, Army Air Base, and being around planes all the time sort of got 'under my hide,' I guess.

"After I left Engineering and Operations School, I took the test for air cadet, but was disqualified for a minor physical reason, all of which made me more determined than ever to get some kind of a flying job. I've always had an interest in flying, and I hope, after the war, I'll be able to have a plane of my own—not as a commercial flyer but just for my own enjoyment. I never had much time as a kid to fool with anything like that. Too busy working and getting an education. But I didn't lose interest. Since I've been on this job, my pilot and co-pilot have been nice enough to take the trouble to explain a lot of things, and I'm getting a good background in aviation as a result.

"Getting into this work was a real break, and it would be hard for me to imagine myself doing something else now, although it took a couple of flights for me to get the hang of it."

The corporal interrupts his contemplations long enough to see some of his cargo off at Buffalo and to put aboard two engines destined for the Rome base. He recalculates his load distribution and busies himself between the freight office and the ship with other routine matters before again settling down on his stool.

The Author

Sergeant Robert F. Shaw is a member of the Public Relations staff, Third Ferrying Group, Ferrying Division, Air Transport Command, based at Romulus, Michigan.

He entered the army in December, 1942, and, following basic training at Camp McCoy, Wisconsin, and Fort Belvoir, Virginia, was first assigned to the Camouflage Publications Section of the Engineer School at Fort Belvoir. From August, 1943, to September, 1944, Sergeant Shaw was stationed in Washington, D. C., doing administrative work with various Army Specialized Training Units. From there he went to his present assignment at Romulus.

In civilian life, Sergeant Shaw was engaged in advertising and public relations work in Detroit. He is a graduate of the University of Michigan, a native of Boston, 33 years old, and unmarried.

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He resumes with the explanation that the country, generally speaking, is divided into specific cargo handling areas. The Third Ferrying Group at Romulus, for example, operates regularly scheduled cargo flights through the important war production area bounded roughly by Chicago, Detroit, Dayton, Newark and Buffalo; and the responsibility for maintaining this service rests with the Third Group's 21st Transport Squadron.

Flight clerks average approximately four round trips from Romulus each week with MAT fixing a monthly ceiling on their efforts of 100 air hours. While most of the work is on regularly scheduled flights, occasionally there is a "special" with "hot" cargo bound for Miami, Long Beach, or Great Falls.

Are the trips exciting? No, the corporal wouldn't say so. The business of moving freight by air is so well organized, he explains, that actually it is pretty routine work.

What sort of cargo rides behind him through the skies? Most everything and anything. He cites sparkplugs, ordnance material, anti-freeze, airplane engines, nylon tow ropes, nose sections, magnetos, office supplies, extra gas tanks, flying clothes. It sounds like the roll call of an army catalog.

Cargo, he goes on, is classified into A, B and C priority groups with shipping preference accorded in that order. Passengers are carried on cargo flights only if there is sufficient space for them, but, even then, it is a rather uncertain venture for the passenger since equal, or higher, priority freight can "bump off" a priority passenger at any time.

Arrival at Rome finds weather conditions ahead still closing in, and an hour and a half delay is necessitated before 5127 can resume its eastward course, this time flying on instruments. The corporal puts his papers, including a complete itinerary and a trip gasoline record, in order for clearance at the Newark terminal. Before leaving the ship at Newark, he confers with the pilots to verify gasoline consumption and flying times. All data assembled and recorded, he checks in with the terminal air freight officer.

As our corporal leaves the air freight officer to join the pilot and co-pilot on the trip to downtown Newark, he passes towering piles of freight in the warehouse—cargo destined for Teheran, Cairo, the United Kingdom and other far-off places which have become household names during these war years. Today, he, and many others like him, have added their small contributions to those and similar piles of war cargo and, by his untiring effort, he has well earned the 24-hour layover.

Your observer is left with the thought that this young soldier, concerned now with moving war materiel toward points where it will do the enemy the least good, is the forerunner of thousands of other flight clerks yet to come as air freight, now awakening and flexing its muscles under the stimulus of war, assumes its place in the postwar transportation world. The cargoes of these young men will be refrigerators, washing machines, radios, automobile tires and countless other commodities designed to provide a higher standard of peacetime living.

SAFELY DELIVERED—With another load of air cargo brought rapidly from one distant point to another in a matter of a few hours, the plane's crew leaves for a well-earned rest and some relaxation. "Well done," we say to the cargo clerk, co-pilot, and pilot (left to right).

Captain Ellen Church

The Stewardess Celebrates A Birthday

By Roy M. Wainwright

Superintendent of Stewardess Service
United Air Lines

THE airline stewardess—attractive, gracious and capable—today is one of the most popular features, from the passenger standpoint, of air transportation. But only as far back as 1930, she was a pioneer in a new career for women in aviation, a career carved out by an air-minded young nurse named Ellen Church. Miss Church, now a captain in the Army Nurse Corps—air evacuation service—conceived the idea of airline stewardess service as an outgrowth of her kindred interest in nursing and aviation. On May 15, 1930, United Air Lines put the idea into practical application, and Miss Church became the world's first air stewardess.

Today more than 1,000 sky girls are flying the nation's airways—300 of them with United—adding not a little charm to modern air travel. The idea spread rapidly. Several foreign lines, including Holland's KLM, Swissair, Australian National Airways, and others followed the example.

Captain Church and the sky girls who followed her have witnessed a tremendous growth and transformation in commercial aviation. Taking part in the observance of the fifteenth anniversary of stewardess service this month, Captain Church vividly recalls details of how, on the spur of the moment, this passenger service feature was conceived.

She had been interested in flying as a recreation and had started taking flying lessons while a nurse at French Hospital in San Francisco. Then one day—on Washington's birthday in 1930—she dropped into the traffic office of United Air Lines to inquire about flying to her home in Cresco, Iowa, for a vacation. She and Steve Stimpson, United traffic manager, fell into conversation.

With boundless enthusiasm, Miss Church told Stimpson that she thought it would be very sensible to combine her profession with her hobby. Stimpson told her the only thing he could think of at the moment was an airport nurse job.

The conversation turned to United's new 14-passenger, tri-motor planes, and Stimpson remarked that there was an imminent need for stewards in the passenger cabins because the co-pilots no longer had time to watch out for passengers as well as handle their flight duties. It had been the co-pilots who, previous to this period, passed out lunch boxes to air travelers at mealtime.

Stimpson's comments gave Miss Church an idea. "Why not stewardesses—girls who are registered nurses?"

"The psychology of girls aboard your planes—and registered nurses, too—would sell more

tickets than all the traffic representatives you could hire," she exclaimed.

Stimpson agreed, but had a hard time selling the idea to some of his superiors. Finally, it was agreed to try out the idea as an experiment. Miss Church recruited seven other girls, and all were assigned to fly between San Francisco and Chicago. Their duties consisted largely of instilling confidence in air travelers—especially women—who then were somewhat timidly riding the nation's airways as pioneer passengers.

Happily for Miss Church and the stewardess profession, her idea was immediately popular. Air travelers definitely liked the new sky girls —and asked for more. Even airline pilots, at first hostile toward the idea of girls as members of airplane crews, soon found that having a stewardess aboard was really a help, not a hindrance.

As the stewardess idea spread and air transportation advanced, the duties and responsibilities of the stewardess multiplied.

Only recently there were five babies as passengers on a single flight, and if there is one thing in which a stewardess takes pride it is in helping care for infants—heating their milk, providing special foods, and generally assisting the mothers. But *five!* The stewardess was kept pretty busy that trip, but remarked later that she really enjoyed the experience.

In another instance, a lusty infant boy and his young mother were traveling to meet their returning serviceman. The mother was ill during much of the flight, and between taking care of the mother, changing and feeding the baby, and caring for the other passengers, the stewardess was a very busy girl.

"I've never seen more skillful handling of a difficult situation than her performance that day," wrote one of the passengers on the flight. "Nothing seemed to perturb her; yet if one followed her work, one could not but be impressed by her extraordinary generalship."

United officials say more and more "war babies" are flying these days and mothers have commented in letters of appreciation that they have found travel by air less tiresome for both themselves and the babies.

From the start, United Air Lines insisted that its stewardesses should be registered graduate nurses, not because their nursing training would have any particular application in their duties aloft, but as a means of setting a standard of uniformity. In the words of Miss Church, "We felt that registered nurses had the proper training for the kind of a streamlined job which they were starting. They knew how to handle people. They understood discipline. They were taught to be resourceful."

The psychological value of stewardesses on transport planes was demonstrated time and again during the early days of flying. On one occasion an elderly lady arranged to fly to Chicago to the bedside of her daughter, but after she was seated in the cabin of the big plane she became nervous about going up into the air for the first time and started to leave. Quickly sensing the situation, the stewardess sat down across the aisle and in a few words convinced her that the flight, instead of frightening her, would be quite a pleasant experience. She enjoyed the flight immensely, and made several other flights after that.

Many other instances of the resourcefulness of sky girls are on the records. Once a passenger suffered an attack of acute appendicitis while flying between Omaha and Cheyenne. The stewardess notified the pilot, requesting him to radio ahead to Cheyenne to have an ambulance waiting. Rushed to a hospital, an emergency operation was performed, saving the passenger's life.

Then there was the young sailor who appeared ill, but attempted to reassure the stewardess that he was all right. He insisted he must continue on to his base in California. The stewardess checked his temperature—it was over 102. She called the pilot, who relayed her urgent message: Have an ambulance ready at Denver! The boy didn't know he had pneumonia. But the stewardess knew he must have hospital care quickly. She rode in the ambulance with him to the hospital, to make certain he received the finest possible attention. She wrote his family, reporting everything, and cheering them when the boy was finally past danger.

Many an air-minded young woman went into nurse's training with a career as airline stew-

WINNING HER WINGS—Dorothy Hoeger expresses delight as Roy M. Wainwright, author of THE STEWARDESS CELEBRATES A BIRTHDAY, pins on the wings which designate her as a United Air Lines stewardess.

UNITED STATES

ALASKA

AUSTRALIA

MEXICO

FIFTEEN YEARS APART—These "before and after" photographs point up the passing parade of sky fashions. Above are United Air Lines' original eight stewardesses posing before a tri-motored Boeing 80-A. Chic is the word for the octet in the lower picture who present the last word in sky apparel. Behind them is a twin-engined Douglas DC-3 MAINLINER.

ardess uppermost in her mind. This requirement remained in force until after the United States entered World War II when, with nurses needed for duties on the ground, United and other airlines waived their nurse requirement.

Hundreds of stewardesses joined the Army and Navy as air evacuation nurses and in other capacities where their skill could be utilized. United alone has twenty or more stewardesses on military leave. One is Lieutenant (j.g.) Mary O'Connor of Chicago, who recently was named head of the Navy's new air evacuation school for nurses at Alameda, California. Lieutenant O'Connor gave up her airline career in May, 1943, to become a Navy nurse—ten years from the day she joined United. Known as the "flyingest woman in the world," Lieutenant O'Conner has flown 2,500,000 miles.

It takes time to accumulate that many miles, although many stewardesses have passed the million-mile mark. Flying 85 hours a month, the average sky girl accumulates about 225,000 miles.

Early in 1942, for the first time, United began employing so-called co-ed stewardesses —girls who had had two or more years of college or university training and who could meet the company's other requirements. The response from campuses throughout the country was immediate and impressively large. Girls who long had dreamed of becoming air stewardesses but who knew they could not qualify because of the lack of a nurse's certificate, hastened to get in their applications. In April, 1942, the first of the new co-ed sky girls were assigned to various sections of the company's routes. Before many days had passed, they demonstrated that they were well able to keep up the traditions of the stewardess profession, and turned in a good account for themselves. If they lacked the institutional training of the nurse type of stewardess, they worked that much harder to adapt themselves and to master some of the details which their predecessors knew from experience.

The young women selected to serve as flight guides on United's *Mainliners* go through an exacting course of training before they are assigned to planes, but it wasn't always thus. During the early days, newly-hired girls received only a pep talk from a traffic executive, or picked up bits of information in their con-

versations with pilots and other stewardesses. From there on, they had to learn by experience.

Through the years, certain standards have been developed and adopted in carefully selecting candidates for sky girls. An applicant must possess charm, personality, poise, and a generally attractive appearance. She must be able to cope with people with tact and intelligence.

A United Air Lines manual puts it this way: "She must be a big sister to the little people, a congenial hostess to adult passengers, and a capable, kindly daughter to the older folks. The cabin is her home, and the passengers are her guests."

Physical standards are strict. The applicant must not be over 26 years of age, not over 125 pounds in weight, and must be between five feet two inches and five feet six inches tall. Analysis of questionnaires filled out by each stewardess reveals that most of them come from rural communities. In addition, the girls must be a United States citizen and she must be single. The latter qualification alone, United officials say, is responsible for 99 percent of the resignations among the stewardesses. Many of the sky girls have married pilots with whom they flew. Average length of services is 14 months.

Every new stewardess of United Air Lines undergoes an intensive training course at the company's general headquarters in Chicago. Four weeks of study is given the "fledglings." Included are studies of company policies and regulations, government regulations, ticketing, airline schedules and meal service. The heads of various departments of the airline give lectures on the activities of their organization, and the young women also become familiar with principal features of flying equipment, including navigational aids and operations procedures. Toward the end of their course, they make familiarization flights in the company of regular stewardesses. Then comes the big day when they are given their wings and are assigned to their first regular flights.

Among other things, they serve meals which are tastefully prepared in ground commissary kitchens, care for children and passengers, help passengers with their itineraries, point out sites of interest, answer questions, check the passenger service supplies aboard their planes, distribute reading material, and otherwise make their sky guests comfortable.

Stewardesses receive a salary of $150 per month during training; $125 per month upon graduation; $140 per month after the first six months of service; $150 per month after the second six months of service, and thereafter,

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annual increases of $5.00 a month are granted until a salary of $170 a month is reached. All this, of course, is dependent on the stewardess' performance record. In addition to salary, travel expenses are allowed for meals, hotels and taxi service while stewardesses are away from their domiciles.

Starting with Miss Church's first flight, airline stewardesses have flown in successively larger, faster, more comfortable planes—from the Boeing 80-A's and Ford tri-motors, to the first twin-engined or metal Boeing 247s, and on up to the present-day 21-passenger DC-3 Douglas *Mainliners.*

Those first tri-motored planes which lumbered along at 100 miles an hour had no radio. Pilots flew entirely by contact with the ground, and that meant flights at low levels. The planes didn't ride any too smoothly.

Today, passengers riding the same airway in twin-engined, three-mile-a-minute planes fly at high altitudes—8,000 to 10,000 feet or more —where the air is smooth. The planes are sound-proofed and quiet. The magic of radio provides the highway along which they move swiftly to distant destinations.

According to Don F. Magarrell, director of United passenger service, there will be an increasing need for stewardesses in the postwar age of flight. United plans to augment its fleet with giant four-engined luxury liners, capable of transporting from 44 to 56 passengers and cargo.

"One reason why the demand for sky girls may be greater," Magarrell said, "is that United is planning to assign two stewardesses to each of the larger planes already on order."

For larger planes, he believes there will be five cabin attendants for 100 passengers, including a flight chef. Sky meals will include a wider selection of dishes than can be offered at present, Magarrell says.

All that, however, is in the future. Right now, whether they are on the airlines or in the armed service, stewardesses are turning in a whale of a job in furthering the war program, say airline and military officials.

Postwar Commercial Flying Fuel Bill Set at 70 Millions A Year by G. K. Brower of AA

Postwar consumption of gasoline by civil aircraft at the rate of 2,000 gallons a minute—equivalent to a tank car every five minutes, or more than 1,000,000,000 gallons annually—was predicted at the aeronautical meeting of the Metropolitan Section, Society of Automotive Engineers, in the Hotel New Yorker.

Participating in a symposium on aircraft fuels, G. K. Brower, of American Airlines, said he expected that by 1954 air transport operators alone will be paying more than $70,000,000 annually for fuels and lubricants. Each penny per gallon change in fuel prices was estimated to make a total cost difference approximately of $5,000,000 yearly. He expressed the opinion that airlines will be less interested in the so-called "super-fuels" than in a limited number of grades of gasoline which economically would satisfy varying operating needs.

Routes into United States Sought by TACA de Colombia

TACA de Colombia, newly organized Colombian Aviation Company associated with the original TACA airlines of Central America, founded by Lowell Yerex and now controlled by United States interests including Transcontinental & Western Air, has become the first airline company to seek entrance to this country from the Republic of Colombia. Routes are sought from Bogota to Panama, thence through Central America to New Orleans. A Bogota-Miami route is also planned.

Argentina Aerovias Applies To FEA for Five Transports

Argentina Aerovias, taking advantage of the betterment of diplomatic relations between the big South American country and the United States, has applied to the Foreign Economic Administration in Washington for five Douglas DC-3s. The line plans postwar routes between South America and New York.

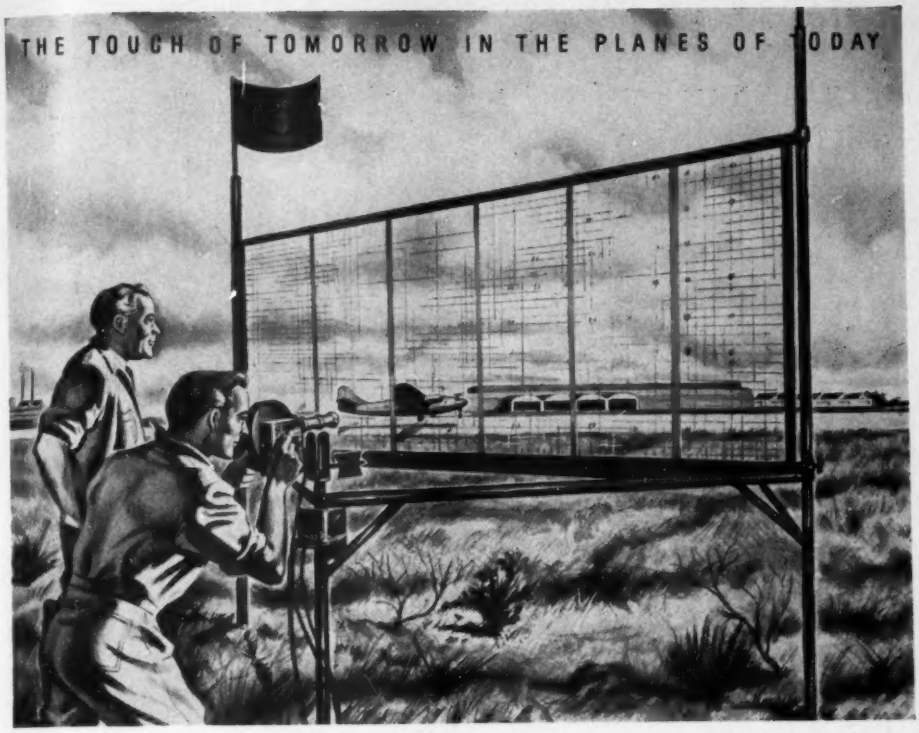
This is the first Argentine airline to apply for planes since the outbreak of war. Prior to renewal of diplomatic relations no Argentine airline could import airplanes.

Routes to be flown are in the interior and operations are planned later to Chile, Paraguay, and Brazil, as well as to New York via Trinidad and Bermuda. Aerovias Argentinas was formed in association with TACA in 1943, but has been unable to initiate services hitherto because of lack of planes.

WAL's New Direct Service Links Denver, Los Angeles

Denver and Los Angeles were linked on May 1 by Western Air Lines' direct daily mail and express air service, with intermediate stops at Las Vegas, Nevada, and Grand Junction, Colorado.

Officials of WAL pointed out that the new direct service is saving 239 miles on transcontinental runs by following the Great Circle course. The Denver-Los Angeles cut-off has reduced transcontinental transit time by two hours. It is estimated that 85 million people are being directly served by the new operation.



SCREEN TESTS FOR A NEW STAR

Across the "screen" flashes an airplane powered by the latest model Ranger engine.

Its progress is recorded on film.

Does its performance surpass expectations? What's the exact rate of climb from the take-off? Is the propeller and engine combination correct?

Study of the screen test films will show.

Through this and other carefully controlled scientific testing, Fairchild engineers are proving the efficiency, versatility and endurance of Ranger engines.

Constantly improved since its inception by Fairchild research and engineering skill, today's Ranger is a flying power plant that is "inline for the airlines."

The emphasis is on efficient horsepower production; length of service between overhauls; ease of maintenance; and economy.

Today, flying over test fields in ships that are basic designs for the airplanes of tomorrow, Ranger models, like all products of Fairchild research and engineering experience, provide a "touch of tomorrow in the planes of today."

BUY U. S. WAR BONDS AND STAMPS

RANGER AIRCRAFT ENGINES

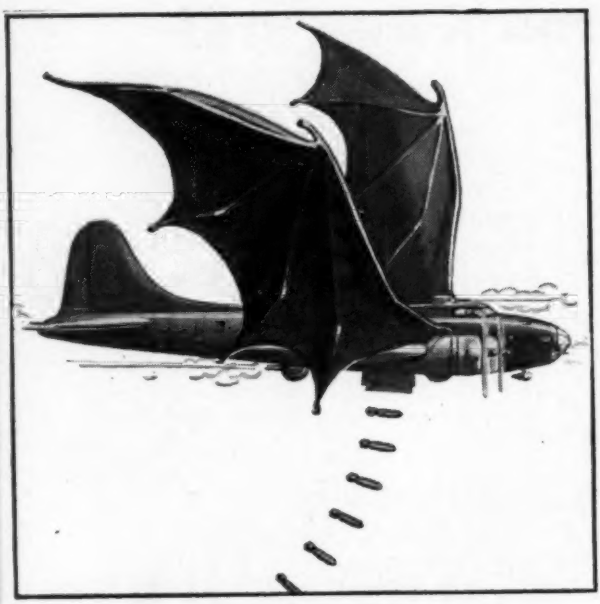
Division of Fairchild Engine and Airplane Corporation • Farmingdale, Long Island

Psychological Aspect of Aviation

By David C. Weiss

Right

BETWEEN the time of legendary Icarus and our modern Winged Victory and airman, diverse worlds have arisen, fallen, and re-emerged. Through the course of time the will to fly has become a reality, the product of countless geniuses —an expression of great human creativity and great human destructiveness.



Might

Before, and in the part during, the war, aviation's achievement and promise for a better world captured the hearts and minds of people. Yet during these past few years, aviation has built up in the mass mind (and yours and mine) a fear of its evil use, and this fear of its horror and destruction will leave a residue in the psyches of many people. Add this to anxiety about the evil of the air machine to the instinctive fear of space latent in every personality and you have a postwar problem of great magnitude in selling air transport, air travel, and their purpose: the creation of One World.

Pragmatic standards require this realization: unless man accepts the air machine as an integral artifact —as the auto, railroad—of his new world, aviation will become an exclusive and thus dangerous exercise of a small coterie. This practical

point needs to be recognized, and should be of first concern on the agenda of businessmen, statesmen, technicians, etc.; in short, men of good will, whatever their area of competence, must focus their energies in making aviation a healthy productive instrument of living. Our future is partly vested in the sky, and in a very deep sense each of us has a material and spiritual stake in that firmament!

For the sun, symbolically, melting the wax of Icarus' wings, was the resistance not alone of the gods disapproving mortal fantasy, but his fellow man's fearful apprehension. Icarus' downfall was as much man-made as god-made. The modern counterpart of this symbolism lies in today's war stories and human misery. To-

The parlance of business, of education, of religion, of art, each has a common expression to describe this essential response which the individual must display before accepting a commodity; a subject; an intangible form: "good will." A magazine like AIR TRANSPORTATION therefore rightfully needs to give attention to this aspect of aviation.

There is a wise maxim which states that the world rests on the mind of every person. To reach that mind with the message of aviation, to get its support and participation in its behalf is the problem. Many methods exist, none exclusive, for this purpose. Education is one. Aeronautical schools whose aims would be the development of skills in addition to

AIR TRANSPORTATION brings its readers the unusual once more with an article that is different in every sense of the word. Here is a long look into the future through the eyes of a professional psychologist. The author will set you thinking.

morrow's expression of this danger will be in "sales resistance," restrictive tariffs, abnormal "terra-centrism" (to coin a phrase), or *excessive* attachment to land modes of communication for reasons other than economy.

Such extremities of reaction are neither possible nor desirable. The promise of aviation has in many ways been realized: in the martial midwifery of the new world; in air transport, evacuation, in the labor and service of air personnel and industry. A residual faith in aviation has thus also been built up. It needs to be expanded and shared by more and more people. The results will limn the more brightly at San Francisco than at Chicago, and hopefully even more so in conferences of the future.

How to bring about this positive and natural acceptance of aviation's power and influence is a complex consideration. It will be a gradual and long process, but it must occur. Man's conquest of the air and space shows the imagination and skill that can be applied to this concomitant necessity.

"Learning by doing" is a sound principle of education and experience. More and more people must be able and want to *participate* in the experience of aviation: as active workers, as recipients of the goods it creates and transports, as participants in the inevitable arts which will grow about aviation, embellishing its contributions to life. To the extent that people's lives will be affected to the good by it, to that degree will we be "oriented" to, and appreciative of aviation.

appreciation are necessary. Political and economic practices favoring aviation are others. Social practices extending the benefits of air

—The Author—

Brains and brawn don't go together, they say; but if there is any truth to that statement, then David C. Weiss is the exception to the rule.

A native New Yorker, he attended the public schools of the city and matriculated at the College of the City of New York, Columbia University, and the New York School of Social Work. In his high school and college days, he ranked high both scholastically and athletically. He played guard on the varsity eleven and tossed around a 16-pound shotput "just for the fun of it," winning medals at the same time. Between games he wrote poetry, sculped, and went heavily into the field of psychology.

Mr. Weiss has mixed an avid interest in aviation with his activities as a psychiatric social worker. In his addresses before various groups and newspaper articles, he has stressed the effect of aviation upon the postwar world. Formerly operating in New York City, Mr. Weiss is now located in Rochester, New York, where he lives with his wife and daughter.

technology are, again, other methods. These must be fused into a clear and consistent approach.

Already the method of art exists by which men's hearts, as their minds will be reached. Selden Rodman's anthology of poetry of the air and flight experiences; the books of Mrs. Anne M. Lindbergh; and the Frenchman, Antoinne St. Exuperry, indicate how the emotions of some have been stirred as these emotions are stirred, and re-experienced by others, a richer and deeper communication will emerge between people.

Perhaps the industry of aviation should sponsor some of the productions and their knowledge, until aviation becomes the inescapable images of art, the novels, poetry, and music. The experiences of wartime training and conditioning of air personnel also have many implications for peacetime application. As soon as that knowledge becomes available from the military, from flight surgeons, introspecting and retrospecting pilots, crewmen, and other personnel, a vital body of information will be accessible for teachers, phychologists, and scientists to study and expand. The aviation industry might do well to help establish a foundation for this purpose, or pool its research branches to this end.

We know that the first vivid experience of flying produces a "heightened" (sic!) impression in the psychology of the person. Whether this impression remains as a temporary or lasting one, of course, depends on the individual's approach to flight. There is a tremendous psychological meaning to flying (and flight as Freud and psychoanalysts would tell you). Basic personality patterns are touched, forms of conditioning and attitudes to life affected. Instinctual and residual fears are aroused, as any moving event which affects us.

The importance of psychology in flying may be so obvious as to obscure its therapeutic benefits on personality. Flight may not only touch on resistance and fear, but may enable individuals to "free" themselves of psychic encumbrances and earth-bound fears. Note the glimmers of this effect in the poetry and exalted prose of the authors mentioned several paragraphs before. It is my belief that aviation holds a profound promise in the science of treating personality and human behavior.

How many of us remember the stories of certain miracles performed by flying. This person was "shocked" into sight; that person into speech; the other, to hearing. Perhaps these are just stories, the unavoidable associations or "superstitions" attached to early aviation. Whether true or not, these stories have many germs of true possibility. It is very conceivable that under proper control the air machine, and the flight experience it offers, may be useful in treating certain conditions of the human mind.

Here, then, aviation has another method of helping to create "good will." Humanitarian results would sell aviation. At least this is a phase of experimentation that ought to be

Mr. Weiss was commissioned to write this article for AIR TRANSPORTATION following a conversation with the editor on the subject. Curious as to what the public reaction to it might be, this magazine mailed special copies of the manuscript to a number of key persons with requests for comments. Here are some of them:

"I believe the article by Mr. David C. Weiss gives us a good birdseye view of some of the future pitfalls and potentialities of aviation which need careful consideration and study. If we can get the right groups of medical men and psychologists interested in the possibility of using flying as a means of treatment for certain abnormal conditions we may be able to uncover some things of great interest and value to the future of all concerned. There would of necessity have to be the backing and cooperation of the aviation industry. This would be of great value to the future of aviation through the good will which it would help build as well as stimulating interest in flying."

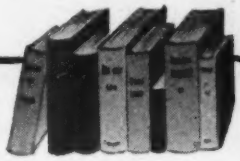
—DR. L. C. BENESH,
Medical Examiner,
United Air Lines
Cheyenne, Wyoming

"Mr. Weiss' paper brings out interesting psychological reactions which undoubtedly become more pronounced in a certain number of individuals and probably in a greater number than before the war. However, it is questionable if the reactions will last long . . . It is doubtful if Mr. Weiss' theories regarding the use of aviation in medical treatments will ever play an important part in the future."

—DR. EDWARD C. GREENE,
Medical Director
Lieutenant Colonel,
U. S. Army (Ret'd.)
American Airlines,
LaGuardia Field, New York

"He certainly has the germ of a big idea in this statement, and it seems to me that there is no question but what it is fundamentally sound."

—N. L. ENGELHARDT, JR.,
Director,
Air-Age Education Research,
New York, New York



LEGAL NOTES *on Air Transportation*

Mr. George B. Boochever, author of this regular feature column, is in San Francisco attending the United Nations Conference. His monthly article will appear on his return.

Aspect of Aviation

(Concluded)

seriously viewed and listed for immediate postwar workout. Perhaps in conjunction with medical groups, mental hygiene societies, aviation may work at a treatment use of flying. Certain neuroses and psychoses induced by shock might respond to the stirring flight of the air machine. In the rehabilitation work of the future, the victims of air destruction may thus also be salvaged and restored by air construction.

The dream of aviation must and will re-emerge from its present nightmare into a living, beneficient reality. As we understand and accept aviation, and experience it, shall we rise to heights of greater social and personal productivity and peace.

The highly effective illustrations for this article were procured through the cooperation of Air-Age Education Research in New York City—The Editor.

Fleet of Giant Landplanes Ordered by American Export

A special fuselage which would provide accommodations for passengers, mail, express, and bulk cargo equivalent to a six-car modern streamlined sleeper train, will be incorporated in the AE Model VII, a temporarily designated multi-engine landplane, of which a fleet has been ordered by American Export Airlines.

Although the name of the manufacturer was not revealed by AE—"for reasons of security"—it is known that the giant craft will be able to accommodate from 108 to 125 passengers, depending upon interior arrangements. The latter include various combiations of seating, sleeping, roomette accommodations, a luxurious lounge, and buffet service.

It was reported that the craft will have a nonstop range up to 4,000 miles at cruising speeds in excess of 296 miles per hour.

MCA Seeks New Routes

Mid-Continent Airlines has filed applications with the Civil Aeronautics Board in Washington in which it seeks to extend its present routes east from St. Louis-East St. Louis to the co-terminal points of Detroit and Cleveland via a combination of any or all of the following intermediate points: Decatur, Illinois; Danville, Illinois; Terre Haute, Indiana; LaFayette, Indiana; Indianapolis, Indiana; Anderson-Muncie-New Castle, Indiana; Fort Wayne, Indiana; and Toledo, Ohio. The second application calls for service from St. Louis-East St. Louis to Chicago via Decatur, Champaign-Urbana and Danville, Illinois. The third application requests extension of its route from Kansas City to St. Louis-East St. Louis via Jefferson City and Columbia, Mo.

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Convair RY-3 Transport is Uncovered After More Than a Year's Secret Work

PRODUCTION of a four-engine land-based transport plane, designated RY-3, which began secretly more than a year ago is under way at the Consolidated Vultee Aircraft Corporation. The plane is a transport version of the *Privateer* PB4Y-2.

Simultaneously, it was learned that the Royal Air Force Transport Command is using a fleet of the new transports for military purposes in conection with the Pacific war.

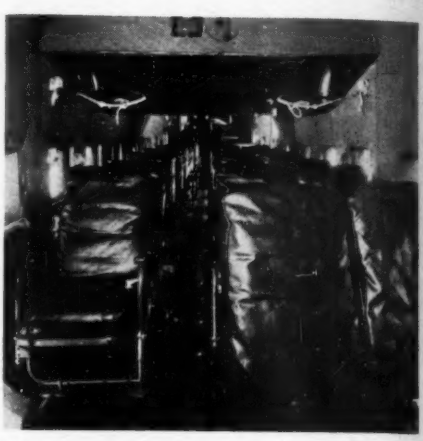
Third of a series of four-engine cargo-transport planes built by Convair, the RY-3 is a high wing monoplane capable of carrying a gross weight of approximately 60,000 pounds. Designed for long range overseas operation, the transport has a maximum speed of over 250 miles per hour and a range in excess of 3,000 miles. It has a tricycle landing gear.

Operated by a crew of four—pilot, co-pilot, radio operator, and navigator—the RY-3 carries a useful load of approximately 30,000 pounds. Facilities are provided for 28 passengers. For alternate purposes, 26 litters can be carried, or an equivalent amount of cargo.

The *Liberator*-type wing has a span of 110 feet. The plane is 75 feet in length and its distinctive single rudder tail assembly extends 29 feet from the ground. It is powered by four 1,350 horsepower Pratt & Whitney engines. A hot air system is used for cabin heating and for preventing airfoil icing conditions.

Design work on the transport was started in October, 1943, and was completed six months later when the prototype received its initial flight test.

Convair is the builder of the recently publicized Model 37, a 204-passenger transocean plane.

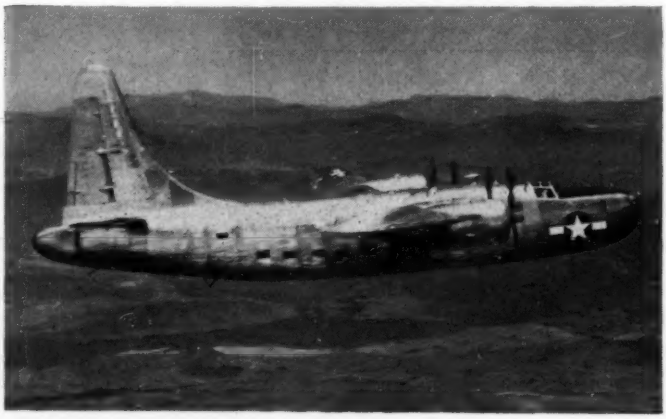


RY-3 INTERIOR—Seats for 28 passengers are provided in this new four-engine transport. The RY-3 carries a crew of four.

Aerovias Braniff Wins Cuban Permit

The Cuban Government has granted Aerovias Braniff, S. A., permission to operate into Havana, according to an announcement made by T. E. Braniff, president of the Mexican airline. Aerovias Braniff has permits from the Mexican Government to operate from Mexico City to Miami by way of Puebla, Vera Cruz, and Merida, Mexico, and Havana, Cuba.

Mr. Braniff said that the service will be inaugurated some time in June.



NEW TRANSPORT—Designed for long overseas operation, the new Consolidated Vultee RY-3 transport plane makes its first public appearance. A little over 75 feet long, it has a wing span of 110 feet. It has a gross weight topping 30 tons and a range of over 3,000 miles.

Wonder Drug Gets Wings

Twelve pounds of penicillin with more than 5,000 pounds of protective packing! An executive of an important pharmaceutical concern explains why an American Airlines Airfreighter was utilized to transport the miracle drug from New York to Chicago and thence to Los Angeles—all in less than a day.

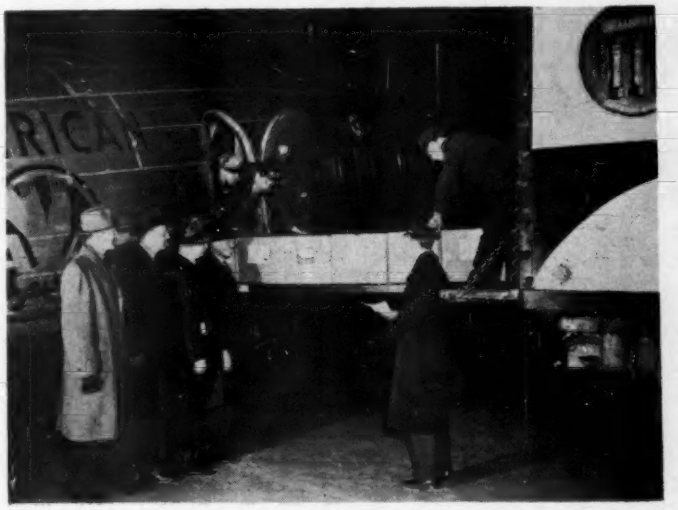
By ROBERT A. HARDT
Vice President, E. R. Squibb & Sons

RECENTLY, when E. R. Squibb & Sons needed a very special job done in the transportation field, the company turned to air freight; and in 24 hours Squibb's distribution centers in Chicago and Los Angeles had supplies of penicillin ready for shipment to drug stores in the Middle West and on the Pacific Coast.

The event, which we in Squibb considered somewhat significant with reference to postwar drug shipments, occurred when it was learned that the War Production Board was about to release penicillin for general civilian use. We knew that these restrictions might be lifted almost immediately, so we called a meeting of our executives to consider what steps might be taken. It didn't take us long to make up our minds that *shipment by air was the logical thing*, for several reasons.

First, there was the need for *speed*. We felt that it was our duty to the country to have the wonder drug available for the drug stores the moment restrictions were lifted. And besides, air transportation offered an added benefit: Penicillin, to remain stable, should be kept at a temperature of 50 degrees Fahrenheit, or lower. Air freight provided the ideal conditions of constant temperature surveillance and control by an attendant.

So we went over to American Airlines; told them our problem. They were quick to see the public service angle of our proposition, and



PREPARING FOR TRANSPORT—Penicillin for civilians, fresh from the New Brunswick laboratories of E. R. Squibb & Sons, crosses a conveyor from a truck into an American Airlines AIRFREIGHTER. The scene is LaGuardia Field, New York. Next stop Chicago — and then, Los Angeles.

FINAL DESTINATION—The valuable wonder drug is unloaded at Los Angeles after a history-making flight across the country. It is estimated that the amount of penicillin transported could save 5,000 lives.

put one of their big *Airfreighters* at our disposal. The result was that we were able, in a few hours, to get in the hands of our distributors enough penicillin to save 5,000 lives. When the WPB release came through a few days later, we were right there with the goods.

We, in Squibb, were enough impressed by this event that several of our officials—John J. Toohy, director of sales administration; C. M. Van Kirk, administrative vice president, and Mr. Carleton H. Palmer, chairman of the Board—turned out at La Guardia Field for the take-off. American Airlines invited us into their Admiral's Club for cocktails, just before the flight. We hadn't been there long before newspapermen and photographers, who were covering the story, wanted to see what penicillin looks like. So we sent out to our truck which was loading the plane, and brought in one of the 90 cartons that made up the cargo.

We who handle the wonder drug all the time forget that many, many people throughout the country have never seen it, and have only a hazy idea what it looks like. The newspapermen were all impressed by the fact that in our shipment, which grossed 5,300 pounds, there were actually only 12 pounds of penicillin. The rest was glass and other packing.

Here is how it is shipped: It is put up in little rubber-capped vials. There is enough penicillin powder to cover the nail on your little finger—if you spread it thinly enough—in each vial. The bottle itself holds slightly less than an ounce. This is so the physician can force distilled water into the vial with his hypodermic syringe, enabling him to make the proper solution for the patient.

The plane carrying the penicillin was scheduled to leave the field at 10 p. m., and we hurried to get it loaded so it could be on schedule. But just as we were about ready for the takeoff, there was a sudden blowing of sirens and scurrying of fire trucks and ambulances. Then we learned that "upstairs" there was a big Flying Fort which couldn't get its landing gear down, and the Army boys in it were going to come down anyway. Fortunately, though, after flying around for a short while longer, the boys did manage to get the wheels down, and the Fort landed without mishap. Our *Airfreighter* left shortly after that with its load of penicillin. Next morning at four, it arrived in Chicago; left half of its load there, and then disgorged the last half in Los Angeles that same afternoon.

The penicillin we shipped was produced in our laboratory at New Brunswick, New Jersey, and the shipment caused a good deal of interest in that town. Mayor Chester W. Paulus came out to our laboratory the day the penicillin was being packed, and he made the following statement to the press:

"This is a great day for New Brunswick. This shipment represents human sufferings eased and human lives saved. We, here in New Brunswick, have seen Squibb's ceaseless efforts during the past few months to produce enough of this amazing drug for our Army, Navy, and our fighting Allies. Now we see its triumph in sending this first shipment throughout the nation for general civilian use. For this reason, I take personal pleasure in voicing, on behalf of the New Brunswick men and women who are Squibb employees, our pride in the part it has been our privilege to play."

This first air shipment of penicillin—also the first for general civilian use—means that here, far behind the battle lines, we have won a war victory of great importance.

It means that the men and women of E. R. Squibb & Sons have played a major role in helping to meet and exceed the heavy needs of our own armed forces and those of our fighting Allies. This miracle drug will now be able to play its full miraculous role, and civilians will gain the full benefits of penicillin. Thousands will now live who otherwise might have died. Squibb is proud of its part in this great contribution to the practice of medicine.

A short time ago, the first international airfreight flight was made to Mexico. And on this first *Airfreighter* there was a consignment of Squibb penicillin and sulfadiazene.

Many medicinal products require temperature control for maximum stability, and some have relatively short periods of potency. Time is an important factor in their distribution. Because many of the newer drugs are used in emergencies, it is a certainty that air shipments will be used more frequently in the future, for both domestic or export distribution.

READY FOR FLIGHT—Five workers demonstrate how an emergency shipment of personnel can be accomplished with the new wing tank. Provision is made for quick loading or escape. Telephone connection with the pilot and controlled ventilation are among the features. The tank was manufactured by the American Aero Supply Company of Los Angeles.

New Wing Tanks Make Transport Of Lockheed Lightning Pursuit Plane

SPECIAL wing tanks, designed to carry cargo or even up to 10 men in certain cases, has given the world-famous Lockheed P-38 *Lightning* fighter plane a new slant, marking another forward-step in military aviation.

It has not been unusual for a group of fast and deadly *Lightnings* to move in on a newly-captured airfield or strip only to be delayed until slower transports arrived with ground crews and equipment, or until fields could be enlarged to permit the larger planes to land. The new tanks, which were manufactured by the American Aero Supply Company of Los Angeles, have solved that problem, permitting the pursuit squadron to carry own ground personnel and equipment.

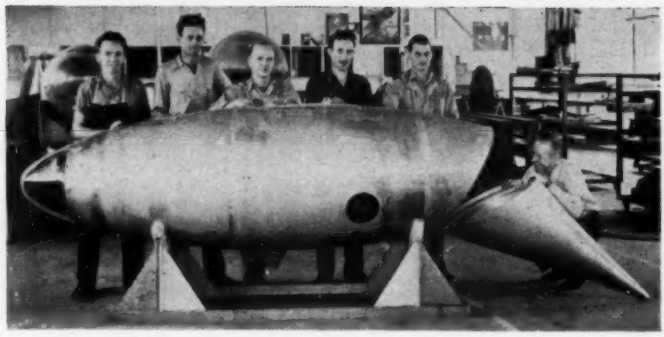
The new carrying devices are similar in shape and size to the 300-gallon auxiliary drop tanks which carry fuel for long-distance flights. The nose is transparent to give the occupants light and counteract their feeling of confinement. They carry a maximum of five occupants each, and the *Lightning* can carry two tanks, one attached to each wing.

Engineering problems encountered in designing transport tanks included the necessity of having a rigid structure without the use of baffles and keelsons in conventional fuel tanks, large access doors for easy loading and quick escape in emergencies, foolproof drop shackles, and proper ventilation.

Structural strength has been achieved by braces that leave tank interiors free of obstructions. Removable rear sections can be released with the flick of a finger to assure quick entrance or exit. Successful parachute jumps already have been made by personnel carried on combat missions.

Drop shackles carrying the tanks are of conventional design. They are an integral part of the airplane wing and also serve as attachments for auxiliary fuel tanks, bombs, or torpedoes.

Dropping of a transport tank through pilot error, however, is made impossible by the use of a safety catch that can be operated only from within the tank. If in aerial battle it



WING TANK—Workers line up behind the new-type cargo and personnel tank designed for the Lockheed P-38. Each tank has a capacity of 1,000 pounds of cargo or five men. Two such tanks are attached to the 425-mile-an-hour plane.

becomes necessary to release tanks to insure safety of both pilot and tank occupants, the last man to bail out pulls the safety catch. The pilot then can release the tank.

The plastic noses give wide vision to navigators. Telephone connections permit conversation between the pilot and wing tank occupant. A non-mechanical system of air vents controlled from within the tank provides ample ventilation. Plugs for regulation flying suits insure comfort at low temperatures.

Possible uses for the tanks are described as endless. On one occasion the *Lightning* transport even played the role of morale builder. Included in supplies delivered to a remote Pacific outpost were two cases of good American beer. What raised the boys' spirits most was the fact that the beer was still cold when delivered.

Seafood Rates Down

Fresh seafood and cooked shrimp are being air expressed from Charleston, South Carolina, and Savannah, Georgia, to Atlanta, Georgia, at substantially reduced rates, according to an announcement by the Air Express Division of Railway Express Agency. These commodities are flying at six cents a pound, marking a reduction of four-and-a-half cents per pound compared with the tariff formerly in effect. A minimum charge of one dollar per shipment is continued.

Express Rates on Alaska Furs Are Cut by Pan Am

Pan American Airways has announced a significant reduction in *Clipper* express rates on the shipment of raw furs and skins from Alaska, averaging as great as 50 percent reduction over previous rates and offering new merchandising advantages to those in the industry.

Rapidly fluctuating prices in the fur market have often reacted to the disadvantage of the producer, for the price might have been high when he shipped his furs out, but something else again when they reached the wholesale market. Furs are not a perishable commodity, but are a highly seasonable one. From the standpoint of the wholesaler, fast air transportation of skins and furs will allow a more flexible inventory, while on the other hand, the trapper can realize a faster return of his money.

Yearly shipments of furs from the Alaska Territory average between 150,000 and 200,000 pounds annually, the variation depending upon trapping and marketing conditions. Air shipping of furs to Seattle from the Territory by *Clipper* cuts to less than one day the transit time from Nome, Bethel, Galena, Fairbanks, McGrath, and Juneau.

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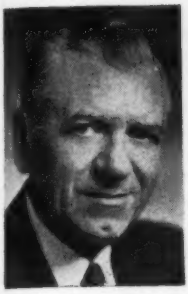
Aviation Insurance: After the War—*WHAT?*

The author raises an extremely important issue with the question why so little attention and thought have been given to postwar aviation insurance and reinsurance. Read his urgent warning for action to meet competition from "less restricted foreign underwriters." Government participation? Mr. Lawrence has his own ideas on this.



By Raymond A. Lawrence

Economic Analyst, Division of Economics and Statistics
United States Maritime Commission

[The opinions and statements in this article are the personal views of the writer and are not to be construed as official or reflecting the opinion of the United States Maritime Commission.
—*The Editor*]

IN the midst of extensive and long-range governmental-planning for postwar international aviation, it might well be worthwhile, presently and for the future, to pause long enough to carefully and seriously consider postwar American aviation insurance and reinsurance. It has been written and spoken that the importance of insurance in aviation and airtransportation cannot be overemphasized; that insurance must be the constant companion of air transportation, and that insurance is the handmaiden of commerce and industry. Assuming that this is true, and presently pertinent (there has not appeared any contrary opinion), why has no little attention and thought been given to a subject of so much importance?

Air routes, domestic and foreign, are important: landing rights, "innocent flight," monopoly and/or regulated competition are of paramount significance. Pending legislation, particularly that which proposes amendments to the existing Civil Aeronautics Act, is also demanding primary consideration. Surely the question of insurance and reinsurance should be a ranking item in these preferred lists. Perhaps the insurance executives and the insurance personnel, as a group, know and have all of the answers; but can the same presumption apply to the aviation idustry, the air transportation companies, the scheduled and non-scheduled airline operators, and, finally, but by no means of lesser import, the individual flyer who is going to operate his or her own postwar plane.

And the individual flyer is important. The dominating influence in civil aviation in the past, and in the postwar era, will be those who fly for their own pleasure, or those who use the airplane in the conduct of their business. A recent careful estimate made by governmental authorities concerned with the future problems of air-traffic control, contemplated that *military and civil aircraft movements in 1950 would total between 45 and 50 million a year, and that the majority of these aircraft movements will be by civilian operators.* It is estimated that military and civilian aircraft, by 1950, will total 500,000.

What insurance, especially postwar aviation insurance and reinsurance, plans, or programs are available for this form of air transportation?

What steps have the aviation insurance writing companies taken toward establishing standard forms and policies for the individual?

Will the individual flyer, the private citizen in his own plane, be permitted to fly the international airways, or will he be confined to mere local and cross-country hops within his own national borders?

Will American aviation insurance follow the flag?

Will we, as individuals, or as a nation, have the privilege and opportunity to "buy Ameri-

can" as successfully as the English "buy British"?

Can we, under present American insurance codes and regulations, successfully compete with foreign insurance companies, either at home or abroad?

Under our present system of licensing insurance companies to operate in the various States, companies are not permitted to write "multiple lines" of insurance; that is, fire insurance companies are limited to the underwriting of fire risks, casualty companies are restricted to casualty risks, marine insurance companies are confined to marine risks, and so on. Foreign insurance operators are not so restricted in their own countries even though they are subject to the same rules and regulations as American companies when licensed in any of our 48 States.

The opinion that the control of insurance should be vested in the States has been supported by many legal advisers; but in a world, as of today, when time, space, and State lines mean little in the daily activity of commercial life, uniformity of insurance laws and practice becomes not a matter of theory, but an essential of our business life.

For example, an assured-owning property in several States cannot obtain uniform insurance protection, but is forced, under existing insurance codes, to accept from the insurance company the form of policy it is permitted to issue in the State in which the individual piece of property is located. Furthermore, what is required of the insurance company in one State, if effected in another State, might subject that company to retaliatory measures.

Air Travel Insurance Cut 64% by Standard Oil Co.

THE Standard Oil Company of New Jersey has announced a 64 percent reduction in cost of worldwide air travel insurance to its employees on company business plus automatic protection without cost where an employee's own life insurance policy contains an "aviation exclusion" clause. Also included in the revision is special low-cost protection for student pilots training under company sponsorship within the Western Hemisphere, and for regular company pilots and plane crews.

Benefits of the revised plan are insured by Standard Oil under a group agreement with the United States Aviation Underwriters, Inc., and are provided in addition to regular group life insurance, death benefits and workman's compensation—all of which are payable under other employee security plans of the company and its affiliates.

The Author

An alumnus of Dartmouth, Class of 1916, Raymond A. Lawrence served as ordnance officer in the United States Army during the First World War. In 1924 he became manager of the claims department of the Hull Insurance Agency, Fargo, North Dakota; and two years later the Westchester Fire Insurance Company appointed him state agent in the Dakotas and Western Minnesota. He was elected to the vice presidency of the Hull Insurance Agency in 1928.

In 1929, Mr. Lawrence accepted the post of assistant manager in the insurance division of the Electric Bond and Share Co., New York, and affiliated companies. Three years later he turned up as manager of the insurance division of the American and Foreign Power Company, New York, and in 1939 he became one of eight appointees as technical advisers to the Bureau of Old Age Benefits of the Social Security Board. Serving as a member of the Field Service Committee which originated and established the present national field office organization for the adjudication of claims, Mr. Lawrence entered the United States Maritime Commission the following year.

At the present time, Mr. Lawrence is economic analyst and assistant to the chief of the Transportation Section of the Division of Economics and Statistics.

How can the business of insurance provide adequate and reasonable insurance service to commerce and industry on the domestic front, to say nothing of the international postwar problems, when hampered by conflicting State laws and practices? Today, the business of insurance is carrying many back-breaking loads from a bygone era which will be a tremendous handicap in meeting the problems of the years ahead. So far, in our own country we have somehow muddled through, but in order to meet the demands of American industry and enterprise, to compete successfully with less restricted foreign underwriters, "something new must be added"—and that rather quickly!

Early in 1914, when the casualty insurance business was in its infancy, the National Association of Insurance Commissioners was concerned with the development of broad insurance coverages. Since then, several States have broadened the laws relative to the admission of companies and the types of insurance which can be written. Most of the Connecticut companies enjoy broad charter

powers, some of them secured as late as 1937. Texas permits fire, casualty, and marine insurance to be written by the same company in one policy. Now, today, is the time for the other States to follow these pioneer States in progressive insurance forms and practices in preparation for adequate and efficient programs for American aviation insurance and reinsurance.

What of our possible postwar aviation insurance and reinsurance companies and markets? All of us are familiar with the surveys of the American insurance market sponsored by the Civil Aeronautics Board and by the Air Transport Association of America; all of us hoped for some constructive insurance plans for the industry as a whole in which the aviation underwriters and the various government agencies concerned could wholeheartedly and sincerely work for the benefit of all members rather than for a selected few.

Unquestionably the aviation insurance writing companies could, and would, provide broader coverages and policy forms at smaller premium rates if the industry, as a whole, were presented as an undertaking risk rather than isolated and individual risks of scheduled airline operators, non-scheduled operators or individuals engaged in purely commercial flights. New theories of aviation insurance, the creation and formation of new and inexperienced aviation insurance writing companies do not, in themselves, provide any satisfactory solution.

Participation by the Government in either aviation insurance or reinsurance is debatable. It is extremely doubtful if the American aviation insurance groups need, or desire, Federal assistance, but they do *need* and *must have* Government sympathy and understanding.

As war today is global, so must be postwar plans for American aviation insurance and reinsurance. Distance has been eliminated; our world is shrinking; no place today is more than 60 hours distant from our local airport. Our money, our experience, our business enterprise and our citizens are going into the previously distant places of the world. Must we be content to have our lives and property insured in local foreign insurance offices, perhaps in a strange and foreign language, or may we hope and expect American insurance to follow our fortunes abroad?

If American insurance companies are to furnish this service adequately, then they must be freed from the legal chains which handicap them when competing with foreign companies. Multiple underwriting powers must be granted so that American insurance companies can underwrite in one policy all the forms of protection now available in one British policy. Taxation premiums on business written outside of the United States should be eliminated; expensive records maintained for many and varied Federal, State and local reports should be, at least, curtailed. Freed of these handicaps, American insurance can serve the public better than it can otherwise be served. Handicapped as it is now, American insurance could only falteringly follow our enterprises and fortunes abroad in the postwar world.

During and since the recent International Civil Aviation Conference in Chicago, much has been printed about "open skies principle," "strong international control," "airworthiness of aircraft," "floors under airline fares and control of subsidies," "frequency of service and national traffic quotas"; but there appears to be a dearth of information or action upon insurance.

If "the principle of open skies," "uniform airport lighting," and "aircraft airworthiness" are important, then it must be granted by all students of aviation that safety and uniform liability in air transportation must be the dominant factors in any domestic and/or international air transportation or aviation program.

Our Federal airways today are 20 miles wide, and in criss-crossing the nation, they occupy a large portion of the entire country. In postwar international air transportation, these airways will probably be increased in number and area. Without uniformity in domestic and international liability, practices, rules and regulations, pilots will literally be "flying blind." They will not know at what altitudes other pilots are flying; whether they

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are equipped with radios; who will have the right-of-way, or what to do when they hit a cloud. The pilot of any, and every, plane is responsible not only for his own safety and that of his passengers, if any, but also is he responsible, to a great extent, for the safety of all planes passing nearby. Recognizing the ever-present fact of human error, of mechanical failure, of atmospheric disturbances, it is evident that so long as man flies by mechanical means, there will remain the possibility of accidents. The Paris, Rome, or Havana Conferences did not solve the problem, but at least some attempt was made!

It is an established fact that competition is the life of trade, although recently it has been intimated that alien insurance companies, presently licensed to operate in this country on a par with American companies, would resent and resist any efforts to provide American insurance companies with facilities which would enable them to compete on an equal basis in the insurance markets of the world. Whether such a situation might develop, it is nevertheless interesting to consider the recent remarks of Mr. E. G. Griggs, one of the leaders in Lloyds Insurance Brokers Association of London, England.

Speaking before this group in February, 1944, Mr. Grigg said:

"There would be many new problems, not least important being those of insurance. One of the most serious situations as it affected the market arose from the spread of nationalistic policy with regard to insurance which was becoming so prevalent before the war."

Mr. Grigg proceeded to explain that he referred to the national policy of compelling citizens of any country to insure with companies operating in that market, thus prohibiting them from taking advantage of the world market. He then said that his audience would, doubtless, have in mind one of the provisions of the Atlantic Charter—"freedom of access to the markets of the world"—and it was his hope that, from an insurance point of view, that principle would be borne in mind very clearly when the nations of the world gathered to discuss how the ideals for which we are fighting could be accomplished.

American insurance companies today are willing, and anxious, to furnish the American insuring public with broad, progressive forms of insurance whenever and wherever such protection is needed, and American insurance companies are capable of serving their public throughout the world. Only restrictive American insurance codes and legal limitations prevent this service. American business (*aviation and air transportation are an important integral part*) engaged in international trade and American citizens traveling in foreign lands should have the privilege and opportuntiy of purchasing adequate insurance protection from American companies. The importance of this feature of insurance is recognized by the British companies as indicated by a recent dispatch from London. It was stated, in part:

"Excluding Lend-Lease supplies and exports, the market (insurance) is also concerned in imports, and the value of these is high. Again, besides trade with the United Kingdom, the London market (insurance) is interested in commerce between other countries, and this form of insurance business has its special significance since the earnings contribute to Britain's invisible exports."

The uncertainty concerning State regulations of insurance, as a result of the Supreme Court's decision of last June, will continue for some time. The National Association of Insurance Commissioners is continuing its activities in attempting to secure legislation to restore to the States the regulatory authority eliminated by the court's decision. This possibility of Government insurance is now hovering over the industry, and unless the private enterprise of insurance, encouraged and led by their own executives, in cooperation with the

Insurance Liberalization

LIFE insurance management recognizes the importance of life insurance to the development of aviation," Holgar J. Johnson, president of the Institute of Life Insurance, recently said. "The life insurance companies, therefore, have always endeavored to grant both those operating aircraft and those flying as passengers the maximum protection and lowest cost possible within the realm of sound underwriting.

"The result has been a record of consistent liberalization. It was only 15 years ago that pilots had difficulty in securing any life insurance at all, and those insuring them required extra premiums four or five times the present extra premiums. In the case of airline passengers 15 years ago, relatively few companies issued policies at standard rates on those who contemplated air travel beyond normal limits and the measure of normal was then one-tenth the annual total of flying now termed normal.

"Liberalization of the insuring of this new risk has advanced as increasing safety surrounding that risk has made it possible. Further liberalizations in aviation underwriting will be extended as rapidly as experience in aviation justifies. The life insurance companies are closely following aviation's progress to make them as quickly as possible."

various State insurance commissioners, satisfactorily solve the problem of uniform broad airplane coverage at reasonable cost, surely there should be no complaint over a solution by the Federal Government.

Much has been said recently about the American system of free enterprise, but one should remember that the price of such freedom is *responsibility*. Free enterprise in the business of insurance will exist only so long as that business adequately and properly serves the public. Because of this service character of insurance, the American insurance companies, and their executives, are obligated to employ their influence and power in the interest of public service and progress.

International conferences on postwar aviation have been held; more will follow; pending legislation materially affecting the existing Civil Aeronautics Act and the business of aviation insurance is now before Congress; Government and private industry are busy investigating and projecting postwar plans.

But what of plans or programs for postwar aviation insurance and reinsurance?

The postwar period will create an era of determined and strenuous competition for air transport supremacy. The major nations of the world, conscious of the economic, military and political importance of extensive and successful air transport operations, will exert constant and vigorous efforts to establish and extend, not only their presently existing air transportation organizations, but those also which are, today, only the blueprints of tomorrow. The international stakes are high—the rewards are priceless. Today, as a nation, we have huge factories producing transport aircraft surpassed by none; we have operating experience and management in commercial air transportation unequalled by any other nation; we have trained and qualified personnel unexcelled in the "know how" of aviation and aviation insurance; we have, in truth, a commanding and dominant position in world air transportation.

Why accept less in any postwar period?

Subcommittees Reorganized

TO speed up work the Insurance Committee of the Airlines Finance and Accounting Conference of the Air Transport Association has reorganized its subcommittees as follows:

Development of Standard Insurance Policy Forms—F. S. Wilson, chairman; C. R. Calhoun; H. L. Swimm; F. J. Scott; C. F. Warner.

Broadening the Insurance Market—Jay Jackson, chairman; A. A. Carlson, C. R. Calhoun.

Development of Insurance Statistics—Hayes Dever, chairman; A. A. Carlson; C. F. Warner.

These subcommittees are working out the final details of a new form of ttip insurance policy. In addition, they are developing plans to procure special classifications for airline automotive equipment, special rates for fire and extended coverage on airline hangars and other buildings at airports, and a schedule of complete coverage for a representative air transport company.

Caribbean-Atlantic To Come into NAL's Fold

National Airlines will acquire the Caribbean-Atlantic Airlines, of Puerto Rico, subject to approval by the Civil Aeronautics Board, according to announcement by G. T. Baker, NAL president. Caribbean-Atlantic operates in Puerto Rico, the Virgin Islands, and St. Thomas, linking the cities of San Juan, Aguadilla, Mayaguez, Ponce, and the Islands of St. Thomas and St. Croix.

NAL contemplates no changes in personnel and management of Caribbean-Atlantic and the chief stockholders of that company. The company will furnish Caribbean-Atlantic with modern Lockheed *Lodestar* equipment.

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AIR-PORTATION NEWS
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STATEN ISLAND AIRPORT—This is a bird's eye view of the airport leased by the Otto Aviation Corporation.

Staten Island Airport Leased by Otto Aviation

The Otto Aviation Corporation of Bloomfield, New Jersey, has leased the Staten Island Airport, Staten Island, New York, and will be operated as a base for private pilots of the metropolitan area.

The airport, leased from Edward McCormick of Stapleton, Staten Island, covers 100 acres. It has a gravel-base sod field with 2800-foot all-way runways. Otto Aviation, which owns the airport at Blairstown, New Jersey, and has leased a string of other airports in New Jersey, plans extensive renovations of the field.

A $50,000 administration building and hangar, with a pilot's lounge and restaurant, will be constructed as soon as labor and building materials can be obtained. However, in the near future, additional individual plane hangars will be erected around the field. Both a ground and flight school will be operated at the Staten Island Airport. It will be used by the company as a sales agency for light planes, also for aviation supplies and equipment. Hangar, overhaul and maintenance service will be available to pilots.

In 1942 and 1943, the field was used for military flight training but since the training cut-backs, has only been used by private flyers. With LaGuardia Field and Idlewild closed to most types of private planes, the Staten Island Airport also serves as one of the few available fields around New York for cross-country flying, he added.

Airlines Bid for Postwar Use of Egypt's Airfields

During a debate in the Egyptian Chamber of Deputies on the question of grants totaling $1,400,000 for improvements on the Almaza Airport, near Cairo, it was learned that a number of foreign airways are negotiating with the Egyptian Government for postwar use of airfields.

The Defense Ministry is financing the work, which is being carried out by the British Royal Air Force. The cost of the work is estimated at $2,400,000 and the RAF is spending $300,000 on permanent buildings, which will be presented to the Egyptian Government at the end of the war.

A Nationalist Deputy, Fikry Abaza, attacked this arrangement because of the tie-up with the British Government and said that "a more national method" would be to import materials from the United States on lend-lease and have Egyptians do the work themselves.

Lend-lease aid is impossible, the Under-Secretary for Defense, Abdel Khalek Saber, said, because Almaza is primarily a civil airport, in spite of the fact that it is used now by the military. The present improvements are planned with a view to future traffic.

Plans have been set to make Almaza one of the world's largest and most important airfields, according to the Under-Secretary for Defense. He said that it was unimportant whether Egypt had an air fleet of her own, but that a number of international lines were negotiating for the right to operate there.

ATA Passenger and Cargo Committee Extends Scope

The handling and maintenance of equipment connected with the general overhaul work in the airlines' shops are now under the aegis of the Air Transport Association Committee on Passenger and Cargo Handling and Servicing Equipment, which is headed by Harry Pack of Pennsylvania-Central Airlines.

The committee was originally formed to coordinate industry recommendations for presentation to the Aircraft Requirements Committee on standardization of passenger and cargo handling and servicing equipment for the new and larger aircraft to be used during the postwar period. As originally outlined, the scope of the committee was to include only such equipment as used on the aprons, but later a decision was made that the committee should also consider equipment used for regular overhaul and maintenance in the hangars.

Mr. Pack, in pointing out the importance of coordinating the apron equipment with airport and terminal design and with aircraft design, cited as an example the fact that airplane design will affect passenger loading equipment by the location of the passenger doors in the airplane and the terminal design will affect it by the position of the airplane with respect to the terminal buildings.

The committee has discussed and made recommendations relative to the following:

Passenger Handling Equipment: passenger ramps and passenger loading gangways.

Cargo and Baggage Handling Equipment: baggage cart, cargo cart, belly-loading unit, cargo conveyors, cargo trucks, nose landing stand-cargo, rear loading stand-cargo, and equipment conveyors.

Service and maintenance equipment: air conditioning, commissary carts, service carts, tractor, fueling, two bar, engine starting equipment fire protection equipment, portable flood light, jacks, battery charger, gas cylinder carts, fluid service cans, ramp box, fork lift truck, tail support, service ladder, wing and stabilizing cover, control surface locks, workstands and portable nose docks, oil dispenser, landing gear locks, work ladder, fuel measuring, pilot head covers, landing gear dollies, scaffolding, engine dolly, wing dolly and propeller dolly.

New Services To Boston Open May 1

United Air Lines and Transcontinental & Western Air instituted cross-country routes to Boston on the first day of the month, while Northeast Airlines opened its nonstop service from Boston to New York, making nine trips a day between the two cities.

Since November 1, Eastern Air Lines has been terminating six of its trunk line routes at Boston, with New York as an intermediate terminal. All EAL's routes to the Hub originate south of Richmond, Virginia, or west of Charleston in West Virginia.

American Airlines now is transporting an average of 500 passengers on 25 round trips over the Boston-New York route. The trip originally began 18 years ago. Compared with the earlier two-and-a-half-hour trip, AA, EAL, and NEA each have scheduled trips of one hour and 15 minutes—just half the time it took to make the air journey in the past.

Among the guests invited by NEA to make the first flight from La Guardia Airport to Logan Airport were John F. Budd, editor and publisher of *Air Transportation* and chairman of the Aviation Section, New York Board of Trade; and Dan H. Ecker, secretary of the Aviation Section.

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TWO-AND-A-HALF billion passenger miles on overseas routes. . . . Six hundred million ton miles in transporting war cargo. . . . The saving of many hundreds of thousands of human lives. Such is the stupendous record set by the airlines of the United States during three years of topnotch service in the far-flung theaters of war, according to a comprehensive survey made by the Air Transport Association of America.

From Pearl Harbor through last year, the contract carriers plunged through the Eastern and Western Skies, hauling men and materiél which spelled defeat for the Axis. In the early days of the war, crises heaped one upon the other, presenting difficult obstacles to the victory-bent fliers and the men behind them; but just as regularly as those obstacles appeared, so were they overcome. The Army and Navy hadn't even gathered their full fighting strength—"the day that will live in infamy" was still fresh in the minds of the people—when our airlines' planes already were setting the pace.

At home, essential air travel, air mail, and air express rose to unprecedented heights. In spite of the airlines' vast record of war transportation, the domestic increases were handled with the sort of facility which has made the United States great. Emphasis, however, was put by the survey on the foreign service rendered by the contract carriers.

A total of 193 airline planes and 1,200 airline pilots were used. The lines operating on overseas routes were:

United, on long routes in the Pacific; Northwest and Western, to Alaska; American and Transcontinental & Western, across the North Atlantic; Northeast, to Greenland; Pan American pioneered in the Central Atlantic, Pacific, and Alaska; Eastern, across the Caribbean to South America; American Export, to South America, Africa, and Europe; and Pan American Grace and Braniff, to South America.

Other airlines sharing in domestic service directly for the military forces included:

All American, Braniff, Chicago and Southern, Colonial, Continental, Delta, Hawaiian, Inland, Mid-Continent, National, and Pennsylvania-Central.

In addition to service in flight, the airlines have also contributed in a large way on the ground.

The history of the war could almost be written in the cargo manifests of the transport planes, revealing how they rushed critical supplies and personnel in time to turn defeat into victory on far-flung battlefronts.

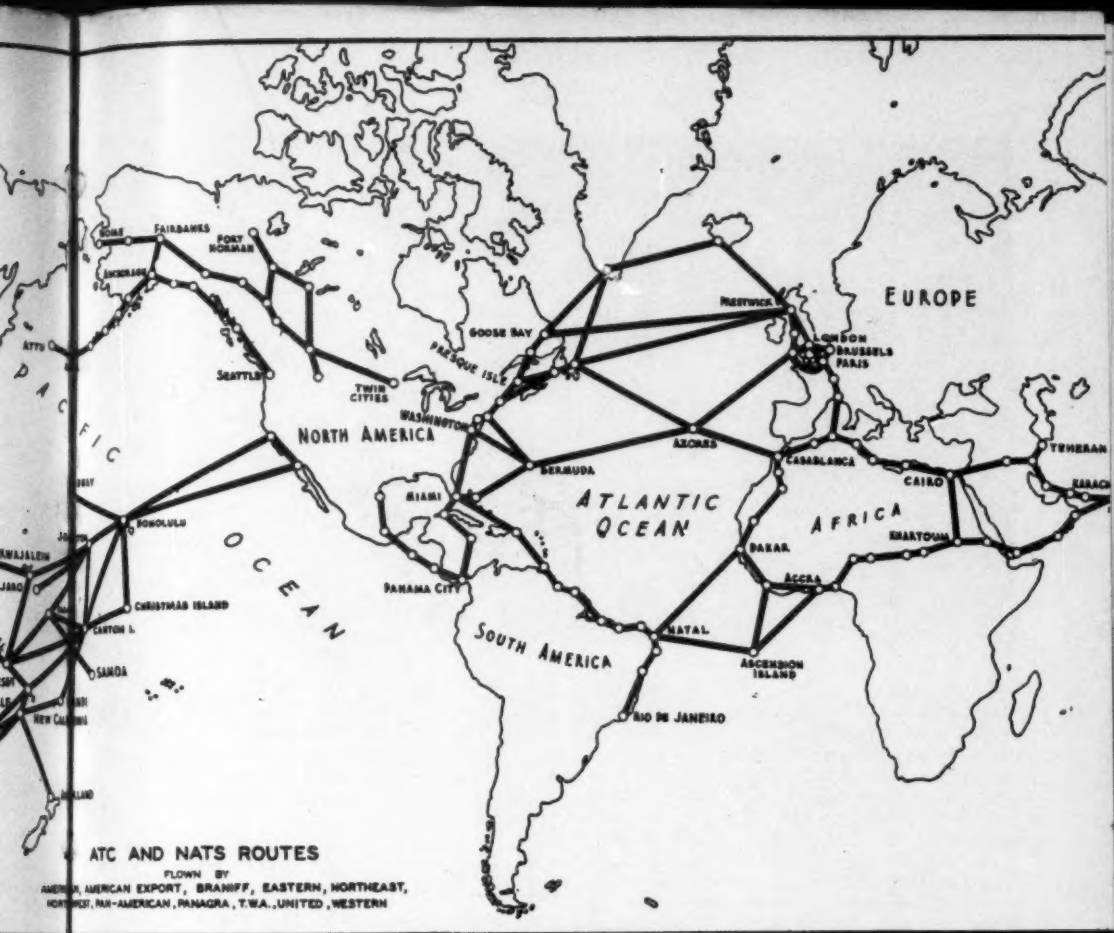
The lists include fuses for tank-destroying shells which helped Montgomery turn the tide at El Alamein, when one *Stratoliner*, among many, made 17 round trips over the South Atlantic in three weeks.

They include the bombs, pilots, and material which forestalled a Jap attack on Dutch Harbor.

They include gasoline, plane parts, jeeps and other supplies, flown steadily over the treacherous hump of the Himalayas, which kept the isolated Chinese and our own Flying Tigers in action against the invaders.

They include ammuntion and food flown to the heroic Marines cut off from all other sources of supply on Guadalcanal.

And they include, day after day, the steady flow of vitally needed medicines, spare parts, blood plasma and whole blood, clothing, food, and every item in the quartermaster's book, which never made the headlines, but enabled



Airlines, Gentlemen

the front line troops to keep pushing forward.

The individual shipments grew bigger and bigger in size, with the cargo handler thinking nothing of stowing away a huge 1,200-gallon gasoline tank truck, sawed in thirds, to be welded together again at destination. And they ranged down in size to boxes with a queen and two worker bees, and beetles from the Fiji Islands to destroy other beetles damaging the growing of vital war materials in Honduras.

Dynamite, eggs, war dogs, fresh vegetables for exhausted fighter pilots, hog bristles, cutting diamonds, Prime Minister Churchill, generals, admirals, or vitally needed farm laborers from the Bahamas—all rode the flying boxcars, both to and from and in-between the battlefronts.

Most precious cargo of all, perhaps, and steadily increasing in volume, has been the returning army of wounded fighting men. Wounded in Indo-China on a Monday, and on the following Monday, safe and comfortable in a hospital bed in the United States with the expert medical attention that spells the difference between death and life! A trip of three months by sea and land, now a regular occurrence within a week! That is a miracle that now is happening every day, multiplied by tens of thousands.

Air evacuation of wounded and sick fighting men has almost overnight become one of the most dramatic and amazing developments of the war. At its outbreak authorities feared that flying would be harmful to many litter cases and that the whole operation would be too costly and hazardous. That experience has taught quite the opposite is proved by the

SPEEDY RETURN— "Most precious cargo of all, perhaps, and steadily increasing in volume, has been the returning army of wounded fighting men." Here is how the CORONADO PB2Y-5H flying boat is used for evacuation purposes.

fact that the Army's ATC alone flew 123,000 casualties in air ambulances last year as compared with 12,000 in 1943. Counting all the air units which do this job, such as troop carriers on their return from front line missions, more than 800,000 sick and wounded have been carried to safe beds and life and hope during the last two and a half years.

The airlines have played a major part in this operation, particularly on the long overseas flights. Most of the evacuation from close behind the lines is handled by troop carrier and other Air Force planes because their outbound missions necessitate their presence there. Then, at supply centers, where they have just unloaded their cargoes, the commercial crews flying Army planes take over for the long hop home, *no matter what the weather.* It has become just a part of schedule, for all the transports have been equipped with litters which can be set up in a few minutes.

They are flying ambulances, without the protective benefit of any painted red cross; and hence subject to enemy attack, with no guns to shoot back. But the patients don't mind, they are so glad of the chance for the quick ride home.

Last year one out of every five sick or wounded men brought back to this country had been returned by air. The number carried by the ATC alone has exceeded 43,000, many of them in planes manned by airline crews. Some of the trips have covered 10,000 miles. Yet only one patient in 30,000 has died en route, and he might have succumbed regardless of the form of transportation.

Some units have flown 125,000 casualties with the loss of only a single patient. So successful have these flights home from overseas proved that the operation has *increased 1,000 percent* in magnitude within the year. ATC started its first long-range flights from the Pacific with a five-litter load from Karachi, India, to the Walter Reed Hospital in Washington, D. C. The average capacity now is about 20 litters per plane.

In all these evacuation flights, exceeding 2,000 a day, whether for short or long hops, the chief partner of the pilot, and perhaps even more important in the minds of the patients, is the flight nurse. Many of them regularly criss-crossed the airlanes of the United States as stewardesses of the airlines; and no war contribution of the lines has been greater than the unflinching, patient, heroic service of these girls who in peacetime days had helped establish the tradition of American travel by air. (Read *The Stewardess Celebrates a Birthday* elsewhere in this issue.)

Speaking of Records . . .

TRANSLATED into globe-circling figures, it is estimated the airlines on war assignments have flown the equivalent of nearly 26,000 times around the world.

Carrying the same tonnage of cargo which they have transported during the first three years of the war, the airline fleets could have carried all the 140,000-odd passenger cars registered in the State of North Dakota from Seattle to Tokyo, or they could have moved by air the entire population of Philadelphia to London.

May 19, 1943, Pan American Airways said . . . **"The war has been a bitter laboratory for air transport, but a laboratory nonetheless. Its benefits should be available to all the people in the peace to come."**

Postwar foreign travel moves closer to the AVERAGE MAN and HIS FAMILY

By moving boldly ahead in the postwar period, Pan American is planning for mass transportation by air.

Postwar 4-engine aircraft for 50 passengers have been assumed by many people to be the next step in transport development. And such aircraft will, of course, be operated by Pan American on many routes as soon as they are available.

But for long-distance, over-ocean express routes—which will, of course, be supplemented by many local services—Pan American has ordered one-hundred and two-hundred passenger sub-stratosphere postwar Clippers.

The operation of these giant Clippers *in combination with* 21-passenger and 50-passenger transports will make possible new efficiencies. Fares will be so low that, for the first time, postwar foreign travel by air will move within reach of the average man and his family.

Giant, 100 and 200-passenger Clippers will bring postwar fares within reach of the average man and woman.

PAN AMERICAN PAA WORLD AIRWAYS
The System of the Flying Clippers

The airlines did much more than transporting passengers and freight. Within six months after Pearl Harbor, they had sold or leased to the Government 193 planes, more than half of their fleet of 359 planes. More than one-third of their personnel, including pilots, stewardesses, and operations staffs, joined up with the armed forces. Many gave their lives and many received citations for performance above line of duty, largely in the same field of flying in which they had gained invaluable experience in civilian life.

Another major contribution was in the training of men and women for every conceivable air transport job. Early in the war the Government created the Airline War Training Institute and "farmed" out the assignment to the individual airlines. Overnight the companies set up schools to train men, not only to carry on their own expanded operations, but also to give post-graduate instruction to Army and Navy personnel who had received basic training in flying, but who needed to learn the complicated technique of operating multiple-engined transport craft and

running airline schedules to uncharted quarters of the globe.

Pilots were only one type of student. The airline schools turned out mechanics, radio operators, technicians, navigators, flight control directors, meteorologists, and a score of other different specialists.

One of the most spectacular of the airlines' war contributions has been the revamping at modification centers of planes fresh off the production line. At these plants, originally used by the airlines for their own repair work, engineers and mechanics fitted stock models with additional equipment needed for specific missions. Standard planes were tailored for operations under varying weather and tactical conditions.

Pilots on Bataan proved that fighter planes could carry small bombs, so the centers installed bomb racks on new fighters before they went into combat. Fifty caliber guns succeeded .30 caliber, enabling us to fire at the enemy before he could fire at us. Equipped with "stinger" turrets in nose and tail, our B-17s and B-24s took a heavy toll of Jap fighters who had been taught that our bombers were vulnerable to attack from certain approaches.

The shops of Continental Air Lines had a big part in this. Working three-and-a-half days without a stop, they did a tailor-made job on the Famous Fifty *Flying Fortresses*, which turned the trick in the Battle of Midway, commandeering a chicken ranch for elbow room and with a payroll of workers no more than three percent of whom had had mechanical experience beyond driving a nail. More recently, they have been doing the same sort of job on the B-29 *Superfortresses*.

General Jimmy Doolittle's B-25 *Mitchell* bombers could never have taken off for Tokyo on time if it hadn't been for Mid-Continent Airlines mechanics, who, without blueprints, installed shapeless rubber gasoline tanks in the crawlways over the bomb bays. Delta Air Lines turned stock planes into dusters for spraying disease-busting chemicals over infested jungles and swamps. American Airlines converted *Liberator* transports and *Skymasters* into litter ships and put floats onto *Skymasters* when the Navy wanted a big landplane that would swim.

The airlines had a big part, too, in developing 100 octane gasoline and producing an indoor tester for landing gear, eliminating the need of bumping a real plane down too hard to see what parts would break.

It was the airlines, likewise, which perfected the art of making one plane do the work of two, not by flying overtime, but by making a science of cargo packaging. Originally the Army and Navy crated spare engines in heavy wooden boxes which often weighed about as much as the contents. Airline enthusiasts were so confident that planes were smoother riding than freight cars that they substituted paper bags for boxes and, just to be sure, lashed their packages down with special straps and hooks.

Weather research is another branch of science in which the airlines in conjunction with the Army and Navy have established a reputation. For example, during the winter of 1943-44, Transcontinental & Western participated in a project sponsored by the North Atlantic division of the ATC. Flying both east and west over the Atlantic in a specially

Western Air Lines
EASTERN Air Lines
NORTHWEST NWA AIRLINES
Æ

equipped plane, TWA crews aided in developing a new system of navigation called pressure pattern flying. By means of the system, pilots are enabled to make use of large scale storm areas to help, rather than hinder, their flights. This was partly responsible for the ATC's ability to fly the northern route the year-round, rather than send its planes on the circuitous routing through Africa and South America.

Two AA crews took a plane out on alternate crossings all winter, making a round trip across the North Atlantic within three days on an average flight. An Army meteorologist accompanied each hop, making and recording weather observations. These were broadcast to all Army stations every hour on the hour going East; every hour on the half going West. Upon arrival at Prestwick, Scotland, all information was put at the disposal of the combat air forces based in Europe, and formed the basis for much of the information used in planning mass bombing raids over the Continent.

Eastern Air Lines, following routes through regions of violent tropical thunderstorms, served as a flying weather bureau for combat craft. Many of these small fighter planes were regularly flown from West Palm Beach to Natal, thence to Africa for dispersal. The boys handling them were young, with comparatively little time and practically no instrument time. An alarming number of them were just disappearing over the 950 miles of jungle and bad weather between Georgetown, British Guiana, and Belem, Brazil. Tommy Harmon, the great football star, was one who went down, but came back.

M. R. "Mickey" Cochrane, superintendent of Eastern's communication system, evolved a plan which considerably reduced losses. Eastern ships with experienced personnel and complete radio equipment were leaving regularly on scheduled trips before the Army fliers took off. A special radio operator and Army weather observer were put aboard who sent back complete and prompt weather reports as the flight progressed. The Eastern ships' radio were also tuned in to Army frequencies so that the Army ships could get location figures and other information. Many lives were saved by the operation of this unique system.

Fickle is the mildest word the pilots have to say about the Northern Atlantic weather. Once they found it 30 degrees colder in New York than 12 hours earlier in Iceland. That this isn't usually the case might be inferred from the honorary order of FBI, established by Captain William H. Dunn of AA for regular commuters on that branch: Frozen Bastards of Iceland. Once a pilot was worried about a strange vibration in the plane, but it only turned out to be his passengers stamping to keep their feet warm. Crewmen solemnly tell greenhorns that they take inoculations of anti-freeze.

Examples of skill, ingenuity, and devotion to duty of the personnel are numerous. Pilots who never flew over 100 hours per month in their domestic airline careers, thought nothing of operating aircraft upwards of 200 hours in a similar period. One of the captains, after flying 275 hours in a five-week period, volunteered to take the next flight out. Another flew more than 250 hours in less than five

PAA

weeks, all of it over water, and during an early period, one captain made seven ocean crossings in eleven days. Most of these instances, of course, occurred during the intensive drive of getting started, and prior to the promulgation of ATC fatigue regulations, which forbid a pilot flying more than 100 hours a month. Examples of that type of spirit and skill have not been limited to pilots alone. Many of the flight engineers and mechanics have shown what they can do when faced by unusual circumstances and great obstacles.

The log books of the airlines are in laconic language. But they tell a story of innumerable acts of heroism, extraordinary service rendered or fantastic adventures. Here are just a few of them:

The Japs had taken Attu and Kiska, and were on the verge of assaulting Dutch Harbor, the most western bastion of American defense

BRANIFF AIRWAYS
GREAT LAKES TO THE GULF
CHICAGO AND SOUTHERN C&S AIR LINES
NATIONAL NAL AIRLINES

of the North American continent. To lose Dutch Harbor meant a Jap foothold on our continent. At 6 o'clock on Saturday afternoon, June 13, 1942, a call went through from Washington to the headquarters of 11 airlines, ordering every available transport plane to Edmonton, Alberta, to rush men and material to Alaska to stop the gap.

Flight superintendents radioed orders to all ships from coast to coast to alter their courses, drop their passengers at the nearest airport, disregard designated destinations and head north. Crews had to borrow pocket money from corner grocery stores and forget they had no clean shirts.

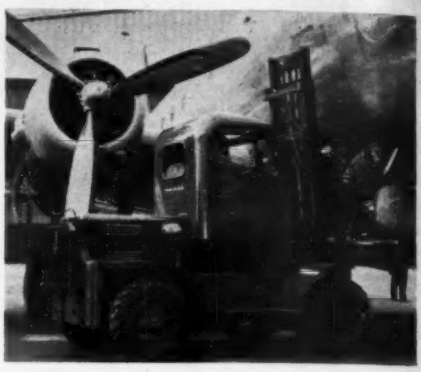
Quickly assembled at Edmonton, the "Minute Man" fleet began shuttling vitally important ammunition, medicine, food, machinery, guns, and personnel to bolster the Dutch Harbor base. These flights of thousands of miles were over uncharted terrain, with mountain ranges periodically forcing flights to 23,000 feet for safety. The concerted efforts of the airlines made Dutch Harbor strong enough to thwart the proposed Jap invasion.

Many incidents of the Alaskan flights were real thrillers. There was, for example, the flight of Captain Bob Dawson and First Officer M. W. Ashby of United Airlines from Edmonton to Anchorage where Dawson was told that ammunition was vitally needed at Dutch Harbor, bombed two days previously. Dawson volunteered for the assignment despite the fact that a Japanese aircraft carrier was reported in the vicinity. He took off at 9:00 P.M. for his first night flight down the Aleutian chain, with no lights and only his navigation instruments to guide him. Landing with the aid of flashlights, he delivered his cargo at Cold Bay and headed back.

At one point he came out of an overcast almost directly above an enemy flat top, but luckily the Japs didn't spot him. Dawson dropped down to within less than 100 feet of the water and continued to Anchorage. No sooner had he returned than he was immediately sent to Cordova and Ketchikan. Upon his arrival at Ketchikan, his logbook showed 43 hours of continuous flight duty.

The lines sharing the Alaskan mission were: Pan American, United, American, Northwest, Pennsylvania-Central, Transcontinental & Western, Chicago & Southern, Western, Braniff, Pan American, Grace and Eastern. The Navy suddenly needed additional engine parts for landing craft. Within 24 hours transport planes flew five tons of them to Hawaii.

One of the outstanding pioneering jobs has been the role of PAA in the Pacific. The



IT DID THE JOB—A Douglas SKYMASTER being loaded with the aid of a Clark Fork Truck preparatory to an overseas cargo flight. American Airlines completed the first survey flight from Newfoundland to Marrakech, French Morocco, in this type of plane.

	1942	1943	1944	Total
PASSENGER MILES				
Foreign	248,543,416	622,233,723	1,023,441,971	2,581,903,999
Domestic	19,343,446	35,930,363	59,138,284	114,412,093
Total	267,886,862	658,164,086	1,082,580,255	2,696,316,092
TON MILES				
Foreign	83,774,408	173,344,163	269,784,830	603,137,283
Domestic	28,999,136	46,191,831	28,724,014	103,914,981
Total	112,773,544	219,535,994	298,508,844	707,052,264
TRANSPORT MILES				
Foreign	37,018,858	59,393,968	85,899,683	246,832,422
Domestic	19,312,812	24,503,126	18,271,401	62,087,339
Total	56,331,670	83,897,094	104,171,084	308,919,761
TRANSPORT HOURS				
Foreign	224,790	337,765	475,107	1,427,436
Domestic	120,494	158,556	121,521	400,571
Total	345,284	496,321	596,628	1,828,007

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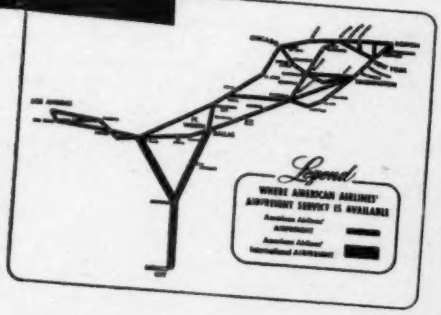


AMERICAN AIRLINES *Inc.*

THE NATIONAL AND INTERNATIONAL ROUTE OF THE FLAGSHIPS

AIR MEDAL WINNERS—For a mercy mission beyond the Arctic Circle and around the Magnetic Pole, this Northeast Airlines crew won the coveted Air Medal which was presented by Colonel Gordon Bulla (left) of the Air Transport Command: (second from left to right) Captain Alva V. R. Marsh, Captain Francis P. Chalifoux, Radio Operator Lester Hughes, and Flight Mechanic Winston Peacock.

growth of the NATS in these wide open spaces followed first the routes flown by PAA to such bases as Canton Island; Noumea, New Caledonia; Suva; and Auckland.

General Eisenhower desperately needed more motor propellant charges to check the German breakthrough last December. Thanks to Army transport planes, he got 70,000 pounds of them two days after they left the Edgewood Arsenal.

Eleven planes diverted from regular routes carried 55,000 pounds of mine-cutting equipment to the United Kingdom for the D-Day invasion. In June, 1944, the War Production Board found that there was a shortage of a vital commodity. Three Curtiss *Commando* transports were diverted from the Central African Division, hurried to India, picked up 23,000 pounds of the stuff, and had it in Miami within four days.

One of the most dangerous and uncertain trips an airline was ever called upon to make was carried out in March and April, 1943, when Northeast was requested to operate a special flight to Arctic Bay for the purpose of removing sick personnel from the weather station there. Proximity of the magnetic pole was an added difficulty. Co-Captains Alva V. R. Marsh and Francis P. Chalifoux and his crew not only brought out the patients, but took in 2,300 pounds of supplies, logging 9,910 air miles in 13 days. Each member of the crew received an Air Medal.

It is perhaps not known outside military circles, but in the early days of limited facilities and unexpected emergencies, NEA carried combat troops between Reykjavik and Melgerdi, Iceland, in anticipation of an enemy raid in that territory. The ship was piloted by Captain Howard Holman.

When the hospital at Nome, Alaska, burned, a replacement, complete from 24 beds and X-ray equipment to hypodermic needles and rubber gloves was loaded onto planes and flown in by Northwest Airlines. Within two days after the fire the hospital was being rebuilt. Northwest helped ATC establish a regular route to Attu, 1,600 miles out on the Aleutian chain and only 2,000 miles from Tokyo on a route flown by instruments for virtually its entire length—an achievement once believed impossible.

Despite the tough Alaskan flying another carrier operating in that wild territory, Western Air Lines, has made nearly 3,000 trips with a perfect safety record. During three years its ATC fleet transported more than 16,000,000 pounds of cargo between the United States and Alaska and the Aleutians, operating an average of 16 hours a day.

One of the most unusual assignments, in which Eastern played a big part, was the moving of an entire Army pursuit squadron from Louisiana to March Field, Calif. To do the job, ships had to be yanked from regular schedules, hastily assembled at Baton Rouge and flown out with pilots and crews flying day and night. But the job had to be done and it was. Among the strange cargoes that Eastern carried was a shipment of newly printed paper money to the Government of Brazil.

The "Banana Run" to the Panama Canal Zone was pioneered over uncharted airways by Braniff Airways, flying five million miles

UNSUNG HEROES RECOGNIZED — Roman Justiss and Lloyd Milner (left to right), Northwest Airlines' pilots flying military cargo along the Aleutian Islands, wearing their Air Medals which were presented to them in Edmonton by Brigadier General D. V. Gaffney, Commanding General of the Alaskan Wing, ATC. Accompanying the medals were identical citations from the late President Franklin D. Roosevelt. It was the first time that civilian pilots were awarded the Air Medal for aiding military operations in the Aleutians.

Capt. E. V. Rickenbacker
Eastern

Brig. Gen. L. G. Fritz
TWA

Cmdr. W. E. Larned
United

Maj. Gen. C. R. Smith
American

Capt. D. W. Tomlinson
TWA

TWICE AWARDED—Lieutenant Colonel James D. Henry, formerly assistant to C. Bedell Monro, PCA's president, being congratulated by Lieutenant General Lewis H. Brereton on winning the Bronze Star Medal. Previously he had been awarded the Air Medal.

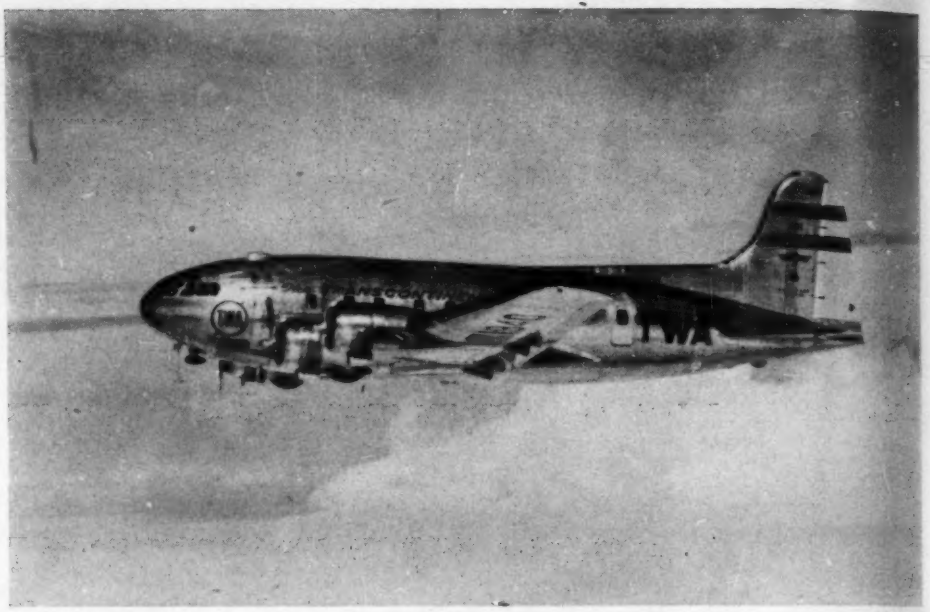
Capt. P. E. Richter
TWA

Lt. Col. W. E. Rhoades
United

Capt. W. H. Dunn
American

Lt. Col. C. C. West, Jr.
Continental

Capt. Bob Dawson
United



VALIANT SHIP—When General Montgomery turned the tide at El Alamein, the STRATOLINER (shown above) figured importantly in cargo-carrying operations. One such plane made 17 round trips over the South Atlantic in three weeks.

without injury to a passenger or loss of cargo, carrying medicines and personnel, and bringing back crude rubber.

It was AA which completed the first survey flight from Newfoundland direct to Marrakech, French Morocco, in a Douglas *Skymaster*. The crews were each awarded the Air Medal, among the few civilians to receive that decoration. It was also one of this line's crews to fly the first ATC *Skymaster* across the Pacific, rushing vital plane parts to General Kenny in the Solomons.

Headquarters Staff Flight Operations of the Ferrying Command, fell to the lot of PCA. This assignment included the transportation of key Army officials wherever required by military necessity.

The first domestic scheduled military cargo service to be conducted by an air carrier in the United States was inaugurated by PCA on April 1, 1942. From a small beginning of two liners grew a service that transported about one-third of all the domestic military cargo carried by the airlines under war contracts.

Some of the miracle of flights is to be found on the ground. One AA engineer recently invented a hoist for changing huge 580-pound aircraft tires. It used to take six men 24 hours to shift a pair. Now it takes two men one hour. Time is saved in loading with an escalator for luggage and express. Lost washers, nuts, and screws were causing delays in the repair shops. NWA discovered that blind people could do the quickest job of recovering and sorting the miscellany. There's no place on earth for an airplane, is the motto of the maintenance men, and in ways like those they keep them where they belong—in the air.

The airlines contributed many of their top executives, pilots and personnel right down through the line to the Army and Navy. But there they carried on the transport tradition, for the most part performing the same kind of duty. The roster is full of names well-known in civilian airline circles.

Perhaps heading the list should be Major General Cyrus R. Smith, deputy commander to Major General Harold L. George, Commanding General of the Air Transport Command. General Smith resigned as AA's president to help organize the military transport service. Then there is Eddie Rickenbacker, president of EAL, who nearly lost his life in the special military mission which has now become war history. And there is Captain C. H. "Dutch" Schildhauer, who pioneered many of PAA's Atlantic and Pacific commercial routes, and who started the NATS. Lieutenant Colonel James D. Henry, assistant to the president of PCA, became assistant to Lieutenant General Lewis H. Brereton of the First Allied Airborne Army, and won the Air Medal and Bronze star in the airborne invcasion of Holland.

Former Chief of Operations of the Brass Hatters—the ATC squadron which flies the

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highest-ranking military and civilian officials to the far corners of the earth on urgent missions—was Lieutenant Colonel Edward N. Coates, with 12,000 hours to his credit as an AA pilot. Commander W. H. "Slim" Larned,

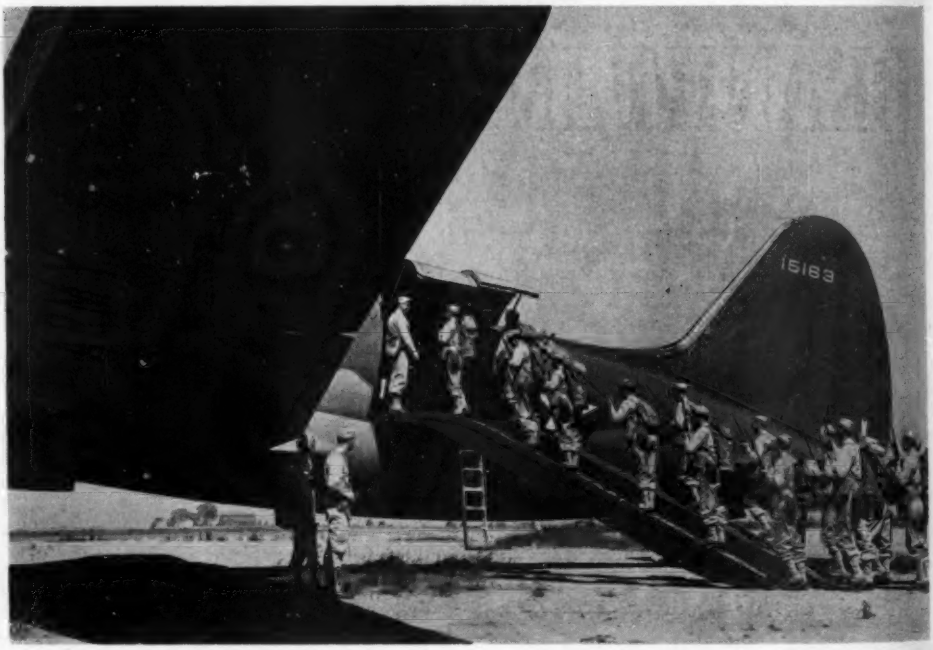
Lt. Col. R. F. Six
Continental

Capt. C. Schildhauer
Pan American

who flew the late Secretary Knox on his famous 17,000-mile trip and before that was a UAL pilot, has made a name for himself as Chief Staff Officer for Atlantic Operations of NATS. Lieutenant Colonel Otis Bryan, vice-president of TWA, helped to organize many of the overseas routes for ATC and flew the late President Roosevelt and others to international conferences. And there is Lieutenant Colonel W. E. "Dusty" Rhoades, former UAL pilot, now personal pilot to General MacArthur.

Thomas B. Wilson, chairman of TWA, was Chief of Army Transportation in the Southwest Pacific and in the China-Burma-India area with the rank of brigadier general. He returned only recently. Other TWA officials still in the service include Captain Paul Richter, Chief of Operations for the NATS and Brigadier General L. G. Fritz, Commander of the North Atlantic Wing of the ATC.

Among Continental's contributions are Lieutenant Colonel Robert F. Six, president; and Lieutenant Colonel C. C. West, Jr., vice-president in charge of traffic. Colonel Six entered the Army in 1942 as a captain and served until July of last year. His overseas duties included the delivery of a flight of *Liberators* to Australia; he also served as Commanding Officer of a transport squadron in the South Pacific. Colonel West still is presently stationed in Washington, D. C.



CARGOPLANE PLUS—Troops match up a ramp into the belly of the Army's C-46 COMMANDO, designed by Curtiss-Wright and originally known as the CW-20. When a shortage of a certain vital commodity was discovered last June, three COMMANDOS were diverted from the Central African Command, rushed to India where they picked up 23,000 pounds of material, and transported it to Miami—all within four days!

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By L. A. GOLDSMITH, *Economic Analyst,* AIR TRANSPORTATION

FRANKLIN DELANO ROOSEVELT will go down in history under the accolade of innumerable achievements, not only as a great American, but as a citizen of the world in every sense of the word. In many of the Latin American countries, he was often called just simply, "El Hombre" (The Man). In many other countries when they spoke of "The President," it was Franklin Roosevelt they meant. The world had adopted him as its own, and his personality permeated the hemispheres. He was not only "a man of the world" in the sophisticated sense—he was "the world's man," as Anne O'Hare McCormick phrases it.

Franklin Delano Roosevelt, Our First Air Age President, Also Known as "The Man" in Many Places in this "One World"

So many worldwide events of transcendental importance have occurred since Franklin Roosevelt's first nomination for the Presidency, that we may not remember that he *flew* to Chicago to accept this honor. That was one of the many firsts in a stirring line of "first things first" in so many fields of unprecedented action.

F. D. R.'s further travels by airplane to the many conferences in foreign countries brought him close to the peoples of the world at large—not only to those in the country he might be visiting. His journeys, his speeches, his thoughts were exposed to the light of day, and they registered not only with the great and the near great, but also with the "little" people. That faculty of being at one with so many people on so many different levels of thought and background was perhaps the secret of the Roosevelt "charm" which put him across to the peoples of the world. Other national leaders have been well known in other countries, but generally only to those on the inside of things. The face, the voice, and the deeds of Franklin Roosevelt were known to the people of the world as part and parcel of their daily lives, as if he had become part of themselves—their own personal property. The significance of this man's life and times is not that he now belongs to the ages, but that he actually *belonged* while he was here, to so many peoples of the universe. That is a phenomenon outstanding in its significance, as well as its effect on the United States and its own people. Our stature as a people has grown in the eyes of others because of Franklin Roosevelt's impact on the life of the world.

FROM the newspaper men of Greece came a laurel branch—flown here from the Acropolis at Athens. It was brought over by the members of the Greek press who came to this country to cover the San Francisco Conference. This remembrance with its ever historic connotation of "Victory" was placed on the Roosevelt grave at Hyde Park by Nicholas G. Lely, Greek Minister of Information in the United States.

Laurel from the Acropolis At Athens and Orchids from The Rep. of Colombia flown To Roosevelt Grave at Hyde Park

It is perhaps specially fitting that a branch of *laurel* should be presented in memory of the President by those very men who will record and report on the San Francisco Conference which Franklin Roosevelt had hoped to see as the culmination of his campaign for victory against aggression and future war.

The people of Greece expressed their own sorrow through the medium of their Prime Minister, Mr. P. Voulgaris, whose message to Mr. Stettinius read in part:

> "I wish to express the profound sorrow of the Greek people, the Hellenic Government, and myself, for the cruel loss suffered by the United States of America and the United Nations by the untimely death of President Roosevelt. Greece is sharing in the grief of the American people and mourns with them."

From the Republic of Colombia, there came as a token of affectionate regard for our late President, dozens of exquisite and rare orchids, flown via Pan American Airways from Colombia

to Miami and then to Hyde Park to be placed on his grave. These flowers were a tribute to the man who promoted the Good Neighbor Policy and were sent by J. Antonio Rios, Governor of the Department of Antioquia (one of the most important Regional Divisions of Colombia); and by Alberto Lopera Villegas, Mayor of Medellin (capital city of Antioquia), and also by a group of distinguished and prominent Colombian women. Attached to the flowers was a message addressed to Mrs. Roosevelt which read: "In sincere homage to one who was worthy of being a leader of nations, champion of democracy, and friend of the Americas."

From the Government of the Republic of Colombia an official expression of sympathy arrived from the Minister of Foreign Relations, Sr. Alberto Lleras, who addressed Secretary Stettinius, along these lines:

> "I cannot describe to you the profound sensation of grief produced in the people and the Government of Colombia by the death of President Roosevelt, who will figure in the history of American Nations as the founder of a new policy under the effect of which the continent has become united in friendship for the welfare of its inhabitants and against any foreign danger. Mankind will not find any way to take his place adequately. He was one of the greatest intellectual and moral leaders and we Americans can only replace his influence by our permanent adherence to the principles which made of Roosevelt a liberator of the globe."

THESE official declarations of grief and shocked dismay were not confined to Greece or Colombia. Hundreds of messages of sympathy and condolence from all countries poured in on the Department of State, addressed to the Secretary of State in accordance with time-honored precedent and protocol. But the expressions of genuine heartbreaking feeling were not by any means the normal procedures laid down for perfunctory protocol, customary "on the death of a Head of State," etc., etc. These overflowing sentiments in regard to the sudden flight from life of Franklin Delano Roosevelt really came from the heart. In practically all of these Governmental communications, sooner or later there appears the word profound, followed by grief, shock, sorrow, and right on through the entire gamut of human emotions.

Official Messages Flooded The State Department But They were Different From Usual Forms of Protocol

The peoples of the world spoke through their governments, and the governments responded to the reactions of painful shock and the sense of irreparable loss expressed unreservedly by their peoples. In reading some of these official messages you begin to get the veritable sensation of attending an old fashioned revival meeting when one after another of those present would arise and say they had "got religion." These outpourings from foreign government officials concerning the death of the President almost ring with religious fervor, and practically with few exceptions, refrain from the usual restraint of dignified diplomatic diction. As the French so often say, such an overwhelming exhibition of spontaneous warmth and feeling "gives one furiously to think."

Perhaps the shadow cast by the absence of Franklin Roosevelt's physical presence at San Francisco may cause the thinking of the United Nations to rise to new heights and really create a future era looking towards world cooperation rather than global combat. Such a sustained effort towards peace would be a more fitting memorial to the aims and aspirations of our late President than any number of stately monuments or marble statues in the market place.

IN effect such a memorial in the form of a successful culmination of the San Francisco Conference was specifically proposed at the first "business" working day of the Conference on April 26. Furthermore, this thought was stressed as a keynote by all the heads of delegations who voiced their views at this session.

Memorial for Roosevelt A World Security Body Plus Public Opinion Training for Peace

To obtain such a successful result, it will be necessary not only to bring into being a United Nations Security Organization, but to create this on the basis of a living growing force, capable of constructive continuity and flexibility for changes and amendments to meet the currents and cross currents which will inevitably arise.

So that national governments can handle such "situations" effectively when they occur, another basic force is a "must" requisite. This calls for a bigger

OLD AIR ENTHUSIAST—This is the scene which presented itself in the nation's capital when the first air mail plane was awaited by President Woodrow Wilson (foreground) and Assistant Secretary of the Navy Franklin Delano Roosevelt (indicated by arrow). The author recalls that when Mr. Roosevelt was nominated for the Presidency he flew to Chicago to accept the honor.

and better development of an understanding public opinion, both here and abroad, concerning the fundamental issues involved in world inter-relationships: political, economic, and military.

If and when all this can be brought about—we may be able to prevent a Third World War—an air war of unbelievable horror, with rockets and robot bombs hurling death and destruction, without warning or discrimination. Instead, let us build aircraft for peace—for peaceful and profitable trading—with passengers and cargo as payloads rather than "Bombs away!" Let us prepare for *avoiding* war by *creating* peace—with sights set high to establish higher standards of living with greater opportunities for progress and prosperity.

Custom Brokers Set Up Organization To Speed Clearance of Imports by Air

AN unprecedented move by the New York Custom Brokers Association, aimed at expediting clearance of all imports into the United States by air, has brought the establishment of the New York Custom Brokers' Air Clearance Association, Inc., it was learned at press time.

The organization was hailed as "the first move in the history of the New York Custom Brokers Association to consolidate and concentrate efforts towards the efficient and prompt clearance and movement of air cargo for its clients" through various airports of this country.

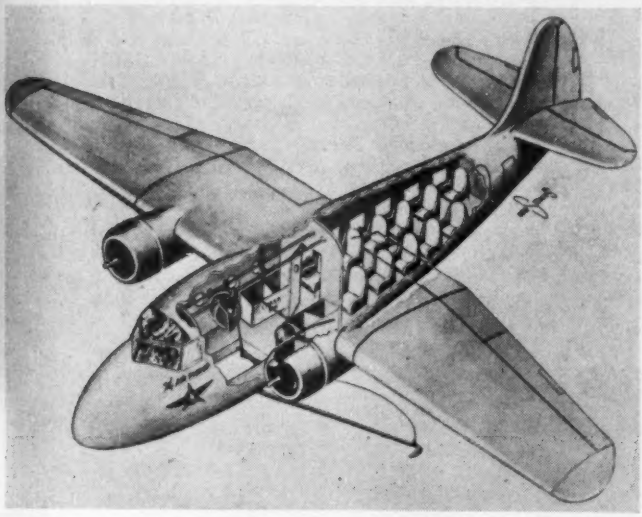
Under the chairmanship of Benjamin Levett, the initial meeting of the new group elected the following officers, pro tem: Herman S. Dorf, president; William Massce, vice president; Daniel F. Young, treasurer; Charles F. McElroy, secretary; Max Taub, William Freedman, George F. Doherty, Jr., Alfred Burin, and C. T. Riott, directors. Messrs. Dorf, Massce, Young, and McElroy are also on the directorial board.

The Air Clearance Association is progressing full steam ahead. Already plans are under way for the opening of offices at LaGuardia Airport; and at other airports throughout the country, working arrangements are being made with local representatives. President Dorf, in announcing the formation of the new organization, declared that its streamlined operations would pare air import clearance time.

AIRDOM

By Richard Malkin

(Trade Mark)



FOR PROPOSED OPERATIONS — This is the type of passenger-pick-up plane designed for All American Aviation for the operations it has proposed.

SIX BIG CANDLES

SPEAKING of birthdays, All American Aviation Air Pick-up service is entitled to place six huge candles upon its strawberry shortcake—on the 12th of this month, to be exact.

In a sense, the establishment in 1939 of this unique airline typifies that which has come to be known as "American go-ahead." Hitler and Il Duce were busy having the time of their lives rattling sabers and roaring the direst threats. All Europe knew that it was in for a great deal of misfortune sooner or later; and while here, in the United States, the same awareness was creeping upon the people, the forward march of civil progress nevertheless was not forgotten.

So, while the war clouds gathered and the gods scowled, a few far-sighted Americans trotted over to Washington and won authorization from Congress to find a practical method for the extension of air mail service to communities off the "beaten track" of the main air transport system crisscrossing the country.

Well, a half-dozen years have passed, and that sought-for "practical method" appears to have been found and nailed down tightly. An even casual glance at the graph reveals a successful story: for the line continues a steady unbroken march toward the upper reaches. To be sure, the statistical line of Air Mail Pick-up resembles nothing less than a ski slide in reverse.

Halsey R. Bazley, president of the company, has divulged some interesting figures. There were two experimental routes in the beginning, covering a total of 1,040 miles and serving 56 communities. Today, the picture is a far broader and rosier one: a system of five routes extending 1,568 miles, and serving 118 communities. Current schedules require 5,068 miles of flying every day.

While on the subject of figures (which have a peculiar habit of becoming dry when overdone), it is interesting to point out that of the six-year total of 5,166,434 revenue miles flown by the system—not to mention the million miles flown by AAA's military cargoplanes before the service was terminated—25 percent were chalked up last year. This record looms more significantly when one reflects that the system's real precipitous rises did not occur until 1943 and 1944.

All American zoomed out of the subsidy class three years ago. Since that time AAA's Air Pick-up service has not cost the United States Government a single red cent—which,

in effect, is a nod for the good sense of Congress in making its authorization six years ago.

"Air mail dispatched via Air Pick-up last year produced estimated postal revenues of $1,915,000 as compared with $534,000 mail pay received by the company," Mr. Bazley stated. "In six years the postal revenues from mail dispatched by Air Pick-up have amounted to $3,875,245, while our mail pay for the same period was $2,416,069.

"The postal revenues have been computed only on mail which has been actually dispatched over All American's lines by the communities which they serve. The figures do not include postal revenues from mail dispatched to these points from our terminals at Pittsburgh, Philadelphia, Washington, and Harrisburg. They were purposely left out in order to make a bed-rock appraisal of the economy of the service from the Government's standpoint."

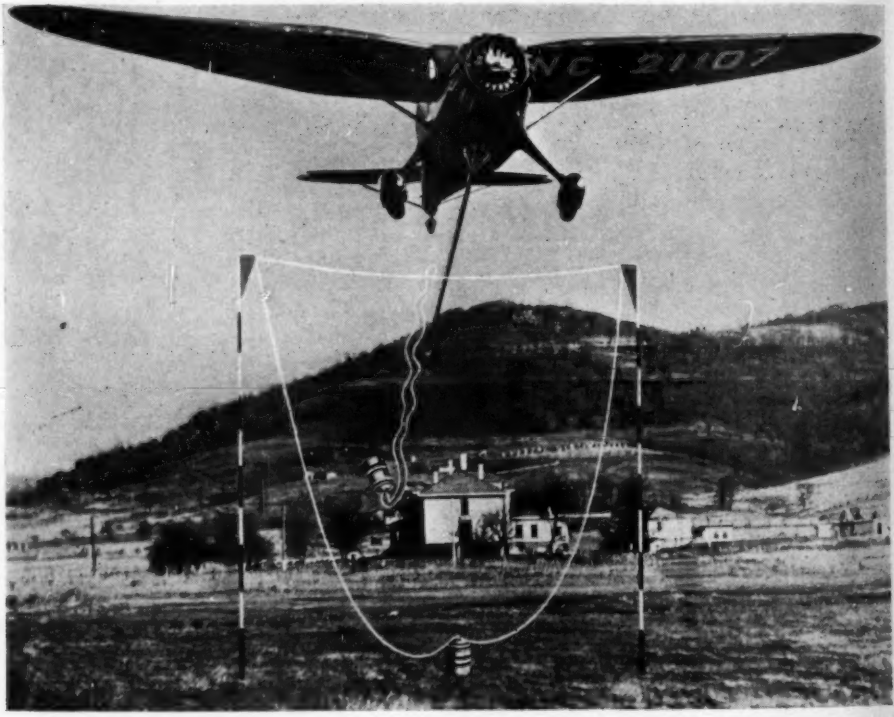
At the present time AAA's pick-up routes extend through a half-dozen States—Delaware, Kentucky, New York, Ohio, Pennsylvania, West Virginia—and the District of Columbia. But the company's plans do not halt there. Its executives perceive a brilliant future for the pick-up system, and they have acted accordingly.

If granted by the Civil Aeronautics Board, AAA will create a network of air mail and express pick-up routes covering 20,064 miles. These would give service to 1,321 cities and towns in 24 States east of the Mississippi River.

Nor is the pick-up system confined to our national borders. Brazil is on the verge of witnessing its first organized pick-up flights. The Brazilian company, of course, has been formed by AAA. Other countries deeply interested in this novel method of picking up and delivery mail and express are Australia, Canada, Great Britain, France, Norway, Sweden, and several others in South America.

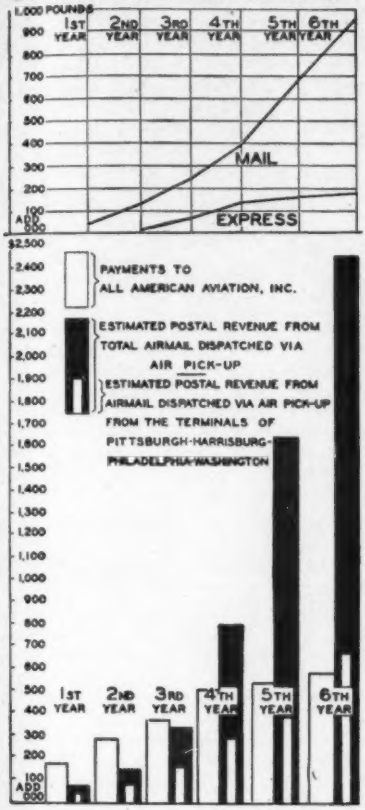
As to the feasibility of combination passenger and pick-up service, Mr. Bazley has this to say:

"From the first, All American has envisioned the adaptation of the Air Pick-up to passenger planes which would be operated over short routes to many intermediate points making stops only where necessary to load or



AIR MAIL PICK-UP—At the present time 118 communities in six States are being served by All American's unique service, depicted above. The company would extend its routes to 24 States east of the Mississippi, serving 1,321 cities and towns. Foreign countries have indicated great interest in this method of picking up mail and express.

6 YEARS OF PROGRESS OF AIR PICK-UP SYSTEM



deplane passengers, and providing service to other places by the pick-up and delivery method as it is operated today.

"Technically, this operation is entirely feasible. Pick-up planes have carried many Government officials, members of the press and others as passengers on regular trips, and without exception these passengers have afterward expressed the belief that a combination pick-up and passenger service would be both practical and safe. Such an operation would provide passenger service to many more places on local and short-haul routes than would be possible if a landing were necessary at each station.

"All American now has on file with the Civil Aeronautics Board applications to carry passengers on pick-up routes. Although some of the airports on the proposed passenger-pick-up routes may not be suitable for passenger operations, they probably could be improved for this purpose without prohibitive expense.

"In considering the traffic potential the thought has been expressed that psychological resistance on the part of air passengers to riding in planes engaged in pick-up operations would make it unprofitable. No such feeling has been expressed by the persons who have flown as passengers over the present Air Pick-up routes, and it is not anticipated that this factor will seriously retard the development of combination pick-up and passenger service. Certainly, the millions of men now engaged in aviation who can be regarded as potential future air passengers will not have any such inhibitions."

The use of gliders in future short-haul transportation is not being passed over. The spectacular and successful use of these motorless transports in the European and Burmese war theaters has given rise to a great deal of optimism regarding the postwar civilian use of this type of craft. In last month's AIR TRANSPORTATION *(see Page 54, April issue)*, John R. Kauffmann of the Laister-Kauffmann Aircraft Corporation of St. Louis asserted that the postwar years would see a big demand for gliders as cargo transports. He cited the fact that big airfields are not required for gliders.

Mr. Bazley terms the economic feasibility of short-haul transportation—that is, as it has been conducted by conventional methods—"still speculative." But he is quick to add that "there can be no speculation about the economic and operating feasibility of Air Pick-up service," which, he says, "represents the intensive development of short-haul and local transportation."

THE BRITISH ORGANIZE

THE British aircraft industry is preparing to make an aggressive bid for business in every part of the world, which naturally does not exclude the United States.

If this news has caused some quaking over the possibility that a first-class trade war is in the offing, perish the thought! It is only through competition of this sort that the premise of air travel and air cargo will be given a decided boost. It follows that better planes and cheaper rates will follow in time.

F. G. Miles of Miles Aircraft, who is no stranger to the pages of this magazine, is the chairman of a newly formed export committee attached to the Society of British Aircraft Constructors. According to Mr. Miles, if Britain is to survive as one of the top powers, she must have a leading place in aviation.

Our own "trade ambassadors" may expect to find company as well as rivals quite soon: in Latin America, India, the Middle East, the Far East, as well as in other parts of the world. (There was a sudden temptation on

the part of this writer to say "far-flung parts of the world," but that is no longer true.)

The new export division, though Government-blessed, is strictly a project of the British aircraft industry. It is reported that the individual aircraft manufacturing companies will retain their own foreign representatives—agents and salesmen—and negotiations for contracts will continue as in the past.

Operations of SBAC's new group will have greater breadth. Its representatives are expected to work hand-in-hand with the British air attaché in each port. The Department of Overseas Trade will likewise cooperate.

For some time rumors have circulated both hemispheres—bruited information which placed the aircraft industry of the United Kingdom in the unusual light of being incapable of offering competition to United States manufacturers of commercial planes for some years to come. This, states Major H. R. Kilner, SBAC president, is wholly unfounded.

Stout Research Division Reveals Test Flights of Spratt Controllable Wing

What is being called a "revolutionary method of airplane control," known as the Spratt controllable wing, is being tested in flight by the Stout Research Division of Consolidated Vultee at Dearborn, Michigan. The controllable wing, one of many experiments being conducted at the Stout Research Division, is reported as simplifying the flying of small aircraft.

Application of the controllable wing to small personal planes will not be made until exhaustive tests have been completed, cautioned an official of the company. He added that several years may be consumed in testing and further development before the wing can replace the conventional design.

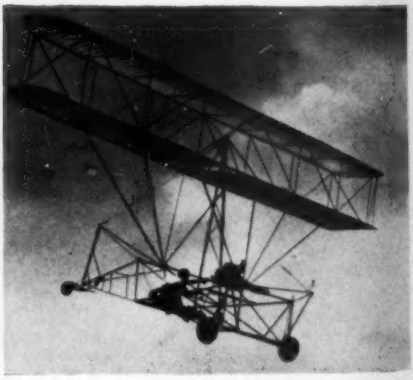
George Spratt

Advantages of the controllable wing appear to be that it will bring greater safety and easier handling to personal aircraft. This new method of control utilizes the principle that a wing may be moved relative to the airplane around two pivots in such a manner as to give control without separate control surfaces being used. When perfected the wing will eliminate the necessity of ailerons, elevators, and rudders on small aircraft, and will make plane controls as simple as those on automobiles and motorboats.

The experimental wing is 26½ feet in length. It is not planned to be used on large planes due to the fact that the pilot must move the mass of the wing under his own strength.

The wing is being developed under the guiding hand of George Spratt, Consolidated Vultee engineer at the research division. However, his father, Dr. George A. Spratt, experimented with the idea as early as 1903.

When Dr. Spratt died in 1934, his son continued with these experiments and had piled up 100 hours of secret flying with his controllable wing plane before his friends knew of his accomplishments. Mr. Spratt cannot fly a conventional type of aircraft.



ELEVEN YEARS APART—On the left is the up-to-date Spratt controllable wing shown in flight. Greater safety and easier handling of personal aircraft are among its advantages. On the right is George Spratt, developer of the controllable wing, shown flying an early model of his plane. The year is 1934.

(Trade Mark)

The Port of New York Authority plans to establish an office in Chicago to serve Midwestern exporters and importers in routing of their foreign trade through the Port of New York.

Nearly every major commercial airline in the world was represented at the Havana convention to organize an international air transport association to further the "cooperative development of safe, cheap, and regular air transportation around the globe."

It is reported from Capetown that both the British Overseas Airways Corporation and South African Airways would operate the same aircraft and lend each other plans for a parallel service.

The Universal Trade Press Syndicate, 724 Fifth Avenue, New York City, is currently offering a special fast service on authentic reports on industrial and technical developments to manufacturers of aeronautic, automotive, and plastic products outside of the United States. The service consists of a fortnightly air mail report covering current American technical articles and news.

A recommendation that the Defense Plant Corporation institute a program whereby the established and organized facilities of aircraft service operators could be used in the disposal of surplus aircraft has been adopted by the Board of Directors of the National Aeronautic Association.

Eleven discharged Army and Navy veterans have been sent to Sao Paulo, Brazil, to assume instructor posts at Escola Tecnica de Aviacao, the aviation technical school operated for the Brazilian Air Ministry by John Paul Riddle, of 340 Alhambra Circle, Coral Gables, Florida.

The Post Office expects that the $60,000,000 air mail deficit accumulated since the service was inaugurated in 1918 will be wiped out by air mail profit of the same amount in a single fiscal year, ending June 30, 1945.

Aeronautics in Alaska, a mimeographed list of references may be procured free of charge by writing the Library of Congress.

Opportunities for Youth in Air Transportation has just been published by Air-Age Education Research of 100 East 42nd Street, New York City. It sells for 25 cents per copy.

Theodore P. Wright, Administrator of Civil Aeronautics Administration, has been awarded by Secretary of War Henry Stimson the highest civilian citation given by the War Department. The award is in recognition of the part he played in the production of aircraft while he was director of the Aircraft Resources Control Office, War Production Board.

Harvard University, with the cooperation of the Air Transport Association, is at the present time conducting a special airport study.

After nearly two-and-a-half years of training flight mechanics for the Naval Air Transport Service, the Flight Mechanics' School, operated by PAA at La Guardia Field will close next August.

American civil aviation is so far ahead of that in other countries that foreign competition need not be feared on international overseas trade routes, opponents of the McCarran Bill point out in explaining why they do not favor the creation of a single American-flag line to represent this country abroad.

Free copies of an amusing booklet, *The Plane and Fanciful Trip of J. Orifice Blipp,* which provides some useful information regarding air express, may be had by writing the Railway Express Agency, 230 Park Avenue, New York City.

A new class in air traffic management has opened at the Academy of Advanced Traffic, 299 Broadway, New York City, with John W. Moore as instructor. Mr. Moore is Traffic Manager for air transport of the Port of New York Authority.

The Aeronautic Chamber of Commerce has recommended wide revision in Government airworthiness design requirements for personal air travel to permit the postwar flier a greater choice of air travel types.

Two more landplanes have been added to the fleet Compania Cubana de Aviacion, PAA affiliate.

Glass cloth, woven of glass fiber yarns and coated with either synthetic rubber or resin, has been selected by the United States Army Corps of Engineers for curtains, side walls, and ends in newly developed airline hangars installed at advanced Army Air Force bases.

Inauguration by TACA of new and faster flight schedules which span the distance between Mexico City and Panama in one day have been announced. Similarly speed-up has been accomplished on the flight between Havana and Panama.

The George S. May Business Foundation, 840 North Michigan Avenue, Chicago, a non-profit organization devoted to research in the interests of private enterprise, announces three new business reports which are available without charge to business executives, schools, and libraries: *Having Machinery is Going Places, The Shipper Looks at Air Cargo,* and *Effecting Labor Economy in the Rock Products Industry.* Readers of AIR TRANSPORTATION will remember *The Shipper Looks at Air Cargo* as the feature article in the December, 1944 issue of the magazine.

Nevada Pacific Airlines has inaugurated daily scheduled services on an interstate route between Las Vegas and Reno, using single engine Fairchilds.

The first daily nonstop air service between Ithaca, New York and New York City has been started by Robinson Airlines. Four-place Fairchild planes are being used to provide one round trip daily.

Economic Implications of Aircraft, by Caroline and Walter Isard, which originally appeared in *The Quarterly Journal of Economics,* has been reprinted in pamphlet form.

J. A. Wilson, director of air services in the Dominion Department of Transport, has received the McKee Transcanada Trophy for 1944 for his contribution to Canadian aviation and assistance in the development of international aeronautics.

AIR TRANSPORTATION Congratulates

HOWARD S. CULLMAN, of Cullman Brothers, Inc., New York, newly elected member of the board of directors of the Aeronca Aircraft Corporation.

Mr. Cullman is also chairman of the Port of New York Authority; president of Beekman Hospital, and a director of Lawyers Trust Company, Tobacco and Allied Stocks, Inc., and Audio Productions, Inc. Aeronca, manufacturer of light, personal planes, has on its board of directors, besides Mr. Cullman, John W. Friedlander, Carl Friedlander, Elmer L. Sutherland, Calvin Verity, H. D. Martindale, Edward Schott, and Thomas T. Bryant.

ROBERT H. EBBITTS, JR., whose experience with airline operations and transportation extends over a period of 15 years, named district traffic manager at New York for Northeast Airlines.

A native of Hartford, Connecticut, Mr. Ebbitts attended Southhold High School and the New York University of Commerce. He started his career in transportation with the Pullman Company in New York, Palm Beach, and Miami, later going with the Atlantic Coast Line Railroad, where he accepted a post in the passenger department of the New York office.

Mr. Ebbitts joined Ludington Airlines in 1930. When this New York-Washington carrier was absorbed by Eastern Air Lines, he became district traffic manager in New York and later division traffic manager. He became inter-line traffic manager in 1940, and in connection with this work was in touch with offices of connecting airlines of the United States, Canada, Mexico and Cuba. He is familiar with air travel throughout Central and South America, the Canal Zone, and the West Indies, where he has made first-hand study. In 1943 he joined American Aviation Associates as director of public relations.

D. RQY SHOULTS, junior engineer of the General Electric Company Aviation Division and one of the men principally engaged in the development of jet propulsion engines in this country, now with the Bell Aircraft Corporation in the capacity of vice president of sales.

Because of his interest in jet propulsion and turbines, Mr. Shoults will be intimately connected with this program at Bell Aircraft, which will continue design, research, development, and production work on new applications of the jet plane.

He was born in Storm, Ohio, on June 25, 1903, attended grammar school in Gooding, Idaho, and was graduated from the University of Idaho in 1925 with a Bachelor of Science degree in electrical engineering. He joined the General Electric Company the same year as a student engineer.

In the summer of 1940, Mr. Shoults transferred to General Electric Aviation Division, where he was especially interested in work on superchargers. In March, 1941, he flew to England to give assistance to the RAF in connection with turbosupercharger installations on heavy bombers. At that time developments were coming thick and fast on jet propulsion and turbines. General H. H. Arnold picked Mr. Shoults as a civilian member of a special commission to investigate the jet engine which had development in England.

The engineer was one of the few civilians privileged to take part in the early developments on both sides of the Atlantic. After Bell Aircraft Corporation was assigned to design and build the first American jet plane, Mr. Shoults served in a liaison capacity between General Electric, the Army Air Forces, and Bell Aircraft in the development of the P-59 *Airacomet.*

JAMES J. FAUTEUX, D. J. KING, and **CAPTAIN FRANK C. JUDD,** all of Northwest Airlines, who have been elevated to new important positions.

Mr. Fauteux, district traffic manager at Chicago for the last three years, has taken over the duties of passenger traffic manager for NWA's entire system. He joined the airline five-and-a-half years ago as ticket agent in the Windy City, later serving as traffic representative there and as district traffic

Capt. F. C. Judd

D. J. King

manager at Duluth before returning to Chicago as traffic head there. Prior to this connection, Mr. Fauteux was associated with Thomas Cook & Son for 10 years, and as a member of the staff made several trips abroad.

Mr. King's new job is that of general manager of the Eastern Region, which takes in the territory between the Atlantic Coast and the Midwest. Previously he had been general superintendent of the company's Northern Area, and while in that position helped the ATC establish and maintain regular routes in Alaska and along the Aleutians. A few years ago he flew to the Equator on a special assignment for the State Department.

James J. Fauteux

He is a native of Benton Harbor, Michigan, was graduated from Kalamazoo College and attended the Great Lakes Naval Training School. Mr. King was a Marine officer and served under Major General Rush E. Rowell. He taught aeronautics in the high school of his home town.

Captain Judd, veteran NWA pilot, takes over the post of general manager of the Western Region. He assumes his new duties after two years as superintendent of operations for the same region. When the Government ordered the nation's airlines into troop and supply transportation service shortly after Pearl Harbor, NWA appointed Captain Judd to the superintendency of the Northern Region.

He joined NWA in 1931 and became a captain four years later. Two years ago, along with 14 other company pilots, he volunteered to fly a fleet of C-46s to China. He remained in that country 30 days to instruct Army pilots.

RAYMOND P. LANSING elected as a director of Bendix Aviation Corporation following a meeting of the board.

Mr. Lansing, who joins the board in the place of G. A. Rentschler, whose resignation was accepted at the meeting, is a vice president and group executive of the corporation, and a member of its administration and engineering policy committees.

Born in Brooklyn, Mr. Lansing has been connected with the corporation and its predecessor companies for the past 30 years.

After receiving his mechanical engineering degree from Worcester Tech., he began as an engineer with the Bijur Motor Lighting Company in 1915, and has played a large part in the development of the Eclipse-Pioneer division of Bendix Aviation Corporation.

Many of the division's present products, such as aircraft engine starters, generators, instruments, and other aeronautical accessories, were developed under his leadership when he was chief engineer during the 1920s.

JAY C. ABBOTT, appointed manager of the news bureau to be established in New York City by Pennsylvania-Central Airlines.

Mr. Abbott has recently been publicity representative of the Douglas Aircraft Company and previously had represented American Airlines in New York and Washington, D. C.

He is a native of Chicago, where he handled publicity for the Stevens Hotel. The publicity man and various traffic representatives to be appointed by the airline will be headquartered in offices soon to be established in the downtown New York area.

BENDIX HELICOPTER: Claire L. Barnes, founder and for many years president of the Houdaille-Hershey Corporation, who has been elected to the chairmanship of the board of directors to fill the vacancy created by the recent death of Vincent Bendix . . . **Robert J. Newhouse,** of Newhouse & Sayre, elected chairman of the executive committee . . . **Frederick K. Barbour,** president of the Linen Thread Company, Inc., new executive committee member.

BOEING: Harold Mansfield, public relations manager, new chairman of the public relations committee for the Aeronautical Chamber of Commerce of America, Western Region, as well as for the West Coast Division of the Aircraft War Production Council.

BOOTS AIRCRAFT NUT: Colonel N. Jay Boots, elected chairman of the board of directors . . . **W. Chalmers Burns,** elevated to the presidency to fill the vacancy created by Colonel Boots' new post.

BRANIFF: Frank Austin, appointed supervisor of stations, whose work will include the general administration of stations, placement of personnel and equipment, and coordination of stations with other departments.

CAB: Francis W. Brown, who succeeds **C. Edward Leasure** as chief examiner. Mr. Leasure enters private law practice in the capital.

CONSOLIDATED VULTEE: A. R. Marshall, USN, retired, named chief of the industrial relations department of the Stinson, Wayne, division.

CONTINENTAL: L. H. Dennis, who has taken over the job of managing flight service for the airline. He is a former division manager for NEA, and has also served with PAA and TWA.

CURTISS-WRIGHT: Herbert O. Fisher, senior test pilot and technical representative of the Airplane Division, who has become the first living civilian pilot to be awarded the Air Medal. He made 21 round trips over the Hump during his flight research activities . . . **Aerts Colby,** Field Service representative of the Propeller Division, back after 14 months in the China-Burma-India military theater . . . **John M. Martin,** who served as assistant to the general manager of the Airplane Division, now manager of Division Subcontracting.

FAIRCHILD AIRCRAFT: E. E. Elliott, a veteran Navy pilot of 12 years' experience and more recently chief test pilot for the McDonnell Aircraft Corporation, appointed flight service engineer of the Fairchild Aircraft Division.

FOLLAND: T. Gilbertson, general manager of this British aircraft company, appointed to the board of directors.

MESSIER: C. W. Sharp, who has joined the board of Messier Aircraft Equipment, Ltd., England, and has taken over the deputy managing directorship.

NAA: William R. Enyart, re-elected president . . . **Arthur I. Boreman,** first vice president; **Sheldon B. Steers,** second vice president; **Mrs. Nancy Harkness Love,** secretary—all new posts . . . **William P. Redding,** re-elected treasurer.

NORTHWEST: Robert Gordon, chief agent at New York . . . **Loren Brown, Robert Miller,** and **William Carey,** senior transportation agents in charge, who have come to New York to work on a three-shift schedule . . . **Rex Poppe** and **Thomas Haugen,** transportation agents at Chicago, transferred to Milwaukee in similar positions . . . **Paul Patrick,** senior radio operator at Milwaukee, appointed acting station manager at Buffalo, New York . . . **H. T. Eckstrom,** named personnel supervisor for the Eastern Region . . . **W. R. England,** district traffic manager at Spokane, now in a similar position at Detroit . . . **William H. Fobes,** formerly president of a St. Paul coal company, named acting district traffic manager in Chicago . . . **Frederick Raiter,** newest member of the traffic staff in the latter city.

PAN AMERICAN: William A. Peek, named special assistant to the purchasing agent for the Latin American Division . . . **Arthur M. Ehler,** assigned as special assistant to Paul R. Whiteford, assistant purchasing agent for the same division based in Miami, Florida . . . **Harry L. Drake,** radio operator aboard a transatlantic *Clipper,* now a 15-year veteran of the airline . . . **Captain Audrey D. Durst,** another 15-year veteran, who ranks as a master pilot of ocean flying ships . . . **Betty Stark** and **Madeline Cuniff,** the line's first two transatlantic stewardesses . . . **Marcia Black,** the first stewardess to fly a commercial schedule to the Alaska Territory . . . New station managers: **Kenneth Alexander,** at Juneau; **Marion Deutsch** and his assistant, **William McRoberts,** at Fairbanks; **Joseph Morrison,** at Whitehorse; **Robert Thorp,** at Port Hardy; **John E. Frost,** at Annette; **Clyde Smith,** at Nome; **Clark Bassett,** at Seattle.

PENNSYLVANIA-CENTRAL: Harold A. Olsen, promoted to the position of Western divisional traffic manager . . . **Wallace I. Gates,** transferred from Buffalo where he headed the line's traffic staff, to Pittsburgh as regional traffic manager . . . **Thomas Hinman,** who goes into Mr. Gates' last job. . . . **Fred R. Clemens,** district manager in Pittsburgh, appointed to the newly-created post of Chicago regional traffic manager . . . **V. K. Stephens,** manager of PCA's home station, named district traffic manager for PCA's New York office . . . **C. M. Britt,** Grand Rapids city traffic manager, now regional traffic manager in the Central Michigan area . . . **Morgan T. Bellah,** Knoxville traffic representa-

tive, upped to district traffic manager . . . **Marshall V. Butler,** lifted to the latter job in Baltimore . . . **Dorothy O'Shea,** formerly with AA, named traffic representative in Cleveland . . . **William Winters,** transferred to his native city, Harrisburg, where he is traffic representative . . . **Hayes Dever,** youthful corporation secretary, upon reaching the 10-year mark with the company.

UNITED: James L. Snell, new district traffic manager at Spokane . . . **Roy Roos,** appointed traffic manager at Tacoma . . . **Lieutenant Colonel Harry W. Hopp,** who formerly flew the Chicago-New York route for the line, raised to the position of chief of the Air Transport Group, Ninth Air Force . . . **Lieutenant Colonel Charles F. Skannal,** who flew UAL's Eastern Division for nine years, commander of the Western Division of the India-China Wing, ATC . . . **Lieutenant Colonel Joseph P. Bohl,** another Eastern Division pilot, named executive officer at Rosencrans Field, which is near St. Joseph, Missouri.

WESTERN: William A. Coulter, re-elected to the presidency and chairmanship of the board . . . Three other incumbents again named to positions on the board; **L. H. Dwerlkotte, Stanley W. Guthrie,** and **George Albert Smith** . . . Newest member of the board: **Glenn C. Wharton,** president of the Kirkendall Boot Company of Omaha, Nebraska, and director of the Nebraska Power Company and of the Omaha Lumber Company.

WRIGHT AERONAUTICAL: Kenneth Campbell, senior project engineer, winner of the Wright Brothers Medal awarded by the Society of Automotive Engineers, for his treatise, *Engine Cooling Fan Theory and Practice.*

MISCELLANEOUS: P. W. Litchfield, re-elected chairman of the board of the Goodyear Tire and Rubber Company; and **E. J. Thomas,** once more named president of the organization . . . **Warren L. Baker,** domestic manager of the Aviation Sales Department, Socony-Vacuum Oil Company, Inc., elected a director of the New York Board of Trade. For the last two years he has been a chairman of the Subcommittee on Fuels and Lubricants of the board's Aviation Section . . . **Dr. Gunther Mohling,** scientist with the Allegheny Ludlum Steel Corporation, winner of a cash award for his contribution in the development of high temperature alloys, one of which provides a vital link in American jet propulsion aircraft production . . . **Hor Hindley,** director of organization of the British Air Ministry, who succeeds Sir Richard Fairey as director general of the British Air Commission . . . **Viscount Swinton,** new British Minister of Civil Aviation.

(*Trade Mark*)

AMERICAN

The 1944 annual report of American Airlines, released by President A. N. Kemp, emphasized the continued consistent progress of the company and its plans for further growth.

A record net profit of $4,396,163 was reported after provision of $4,050,000 for Federal income taxes, as compared with a 1943 net profit of $3,192,969 after $3,500,000 for Federal income taxes. These figures are after providing for $1,000,000 in 1944 and $1,750,000 in 1943 for a special reserve for transition to peacetime operations.

Operating revenues for the year reached a new high of $39,244,012, as compared with $31,451,430 for 1943. New records were established in 1944 in almost all phases of the company's operations.

BENDIX

Consolidated net income of Bendix Aviation Corporation for the fiscal year ended September 30, 1944, was $15,290,095, equal to $7.22 a share of capital stock, after all operating costs and provisions for taxes, estimated provision for renegotiation, depreciation and contingencies, according to President Ernest R. Breech. Net income the previous year was $14,722,704, or $6.95 a share.

Gross sales in the 1944 fiscal year were $914,-110,895, compared with $918,753,465 in 1943. Net sales, after deducting refunds for retroactive price reductions, were $869,662,826, compared with $822,-510,234 in 1943. Actual physical volume of production increased substantially over 1943, it was stated, explained by the fact that the average level of delivery prices was considerably lower in 1944.

BRANIFF

A net profit of $773,985 after allowance of $538,451 for taxes for the year 1944—an increase of 42.80 percent over the adjusted net earnings of 1943—has been reported by T. E. Braniff. The number of passengers increased 43.32 percent, and the revenue passenger miles flown exceeded the year before by 42.76 percent.

The company operated 95.50 percent of its scheduled revenue miles and increased its daily miles during the year from 12,740 in 1943 to 18,722 in 1944. Mr. Braniff pointed out that these increases were principally attributable to the return to the company by the government of five DC-3 airplanes, three of which were converted and placed in operation during the last half of the year.

CONTINENTAL

At a regular meeting of the board of directors a dividend of 15 cents per share on common stock was declared for all stockholders on record at the close of business April 2, 1945.

DELTA

Delta Air Lines reported a 65 percent increase in the total of passengers carried during the first quarter of 1945 as compared with the first three months of 1944.

Passengers transported over the entire system during the first quarter of 1945 totaled 53,803, a gain of over 21,176 over the total of 32,627 for the same period of 1944. Additional airliners received from the Army made the increases possible. Load factors per ship dropped to 81.8 percent capacity for March, compared with 91.6 percent in March of last year.

EASTERN

Eastern Air Lines earned a net profit of $1,499,-337 or $2.54 per share after all Federal taxes in 1944, as compared with $1,426,859 or $2.42 per share in 1943. To date, EAL is the only company in the industry which has paid an excess profits tax, and had this company been exempt from such tax in 1944, net earnings would have amounted to $5.77 per share, according to Captain E. V. Rickenbacker's report to stockholders.

Total revenues of $18,806,266 in 1944 represented a new peak in the history of the company, and compare with total revenues of $16,012,460 in 1943. While operating expenses increased $2,271,-328 in 1944 to $13,106,929, operating expenses per revenue mile decreased substantially from $.8149 in 1943 to $.7593 in 1944, which represents the lowest in the entire industry for carriers operating comparable equipment.

Operating an average of 22.8 percent more planes per day in 1944 than in the year previous, EAL carried 30.3 percent more revenue passengers and flew 30.4 percent more revenue miles last March.

EAL enjoyed the greatest passenger traffic in its history, having flown almost 36,000,000 revenue passenger miles, an increase of 95 percent over March, 1944. Some 67,200 passengers were carried during the month over the 2,100,000 revenue miles flown by the company's planes. Passenger revenue increased 90 percent in March, 1945, over the same month in 1944.

FAIRCHILD

Reporting on operations of Fairchild Engine and Airplane Corporation for 1944, President J. Carlton Ward, Jr., advised stockholders in the annual report that total dollar volume of business for the year amounted to $93,212,963 as compared with $102,450,364 in 1943.

Consolidated net income of the corporation for 1944 amounted to $1,173,123 after $5,011,366 of Federal taxes less postwar refunds. This compares with $1,827,211 in 1943 and represents 1.2 percent of sales compared with 1.8 percent in 1943. Consolidated net income was $1.12 per share in 1944 compared with $1.75 for the previous year. Federal income and excess profits taxes for 1944 amounted to $5,538,879.62, nearly five times net income.

Net income is after a provision of $300,000 for contingencies, and also reflects a provision of $527,514 for the cost of adjusting operations to peacetime conditions, credited to a reserve for readjustment to a postwar basis. The total of this reserve at December 31, 1944 was $3,099,123.

MARTIN

A consolidated income of $4,909,572 after all charges and reserves, which is equal to $4.37 a share on 1,124,564 shares of stock outstanding was reported for 1944 by The Glenn L. Martin Company. This profit per share, which is subject to renegotiation, compares with $2.68 per share, after renegotiation, in 1943.

In a letter to the stockholders, incorporated in the annual report, President Glenn L. Martin, reported that net sales for the year amounted to $533,400,444, which compares with $598,072,796 for 1943, after renegotiation. In his report, Mr. Martin explained that ". . . most of the difference is attributable to voluntary reduction in prices during 1944 of certain Army and Navy contracts, made possible by continued improvements in production methods and technique and general operating efficiencies and economies."

Mr. Martin pointed out that during 1944 two dividends of $1.50 per share were paid, in June and December, total dividends for the year amounting to $3,359,640.

MID-CONTINENT

Of all domestic airlines quoted in a recent CAB report, the second largest percent of increase in passenger traffic figures was that of MCA which carried 38,439 revenue passengers for a 12-month period ending December, 1943; and for 12 months ending December, 1944, carried 74,145 or an increase of 92.89 percent.

NATIONAL

National Airlines had a 102.50 percent increase in revenue passenger miles flown during March, 1945 over the number of revenue passenger miles flown in March, 1944. Revenue passenger miles totaled 5,957,445 in March, 1945. This is the greatest number NAL has flown in its over 10 years of operation.

The line carried 12,213 passengers in March, 1945, in comparison with the 9,640 revenue passengers carried in March, 1944. This is an increase of 26.69 percent. March, 1945 revenue miles flown totaled 484,320, an increase of 94.06 percent over the 249,575 revenue miles flown in March, 1944.

NORTHWEST

NWA carried 218,010 pounds of air express during March an increase of approximately 3,000 pounds over the February total, and nearly 100,000 more than in March, 1944. Express loads were carried 132,448,253 pound miles in March, exceeding the figure of the same period a year ago by more than 57 million pound miles.

Mail loads on flights between Chicago and the Pacific Northwest shot up to 552,227 pounds during the month. This represents an increase of nearly 60,000 pounds over the totals for the previous months and 96,000 over the totals for March, 1944.

PAN AMERICAN

Passengers and air express carried between the 21 American republics by PAA in February advanced sharply over the same month last year, maintaining the 25 percent rate of increase that 1944 recorded over 1943.

PAA, emphasizing that the record figures reflected the company's vital role in the war effort, further explained that route miles flown in the month mounted to 1,400,178 as against 1,167,928 in 1944, in spite of limited equipment and heavy demands for additional service, due to more efficient methods of operation.

Miami, as headquarters of the Latin American Division led the major gateway cities of the international airline, with 10,015 passengers out of the total of 26,154. Passenger traffic of the entire division totaled 21,192 in February, 1944, and the cargo express shipments of 576,927 pounds that month in 1944 were topped by 768,881 pounds in February of this year. Mail shipments were down slightly, from 264,907 pounds in February of last year, to 251,410 for the 1945 month. Route miles flown in the division increased from 1,167,928 in 1944 to 1,400,178.

PENNSYLVANIA-CENTRAL

New all-time highs in passenger air mail and express totals were recorded by PCA during 1944.

Capitaliners flew 2,200,000 more revenue miles, an increase of 71.5 percent over the previous year, with passenger revenue miles jumping 72 percent or nearly 38,000,000 more than in 1943. During 1944 PCA transported 433,584 passengers—77 percent more than 1943's total of 244,961.

PCA's mail loads in 1944 exceeded those of the previous year by about a million pounds, while express loads were up a half-million pounds. These accelerated operations brought PCA's total revenue in 1944 to $6,217,000—the highest in the company's history—as compared with $3,913,000 for the previous year. Net profit was $404,635, as compared with $279,733 in 1943. The company's assets increased from $5,037,000 in 1943 to $5,905,000 in 1944, or 17 percent.

All monthly passenger records in PCA's history were smashed in March when 59,355 people used the line. This is a 50 percent increase over its February totals, and an increase over the March, 1944 figures.

TWA

Revenue passenger miles flown by TWA in the first quarter of 1945 showed an increase of 56.2 percent over the same period last year, according to preliminary figures TWA operated 90,708,006 revenue passenger miles in the first three months as against 58,073,087 in 1944.

Air mail performance showed an even larger gain. In the 1945 period the airline carried 9,251,568 pounds of mail or 71.6 percent more than the 5,390,765 pounds carried in the corresponding quarter a year ago. Express carried in 1945 was 3,149,499 pounds, a gain of 61.8 percent over last year. A total of 97,808 passengers was carried in the quarter, 40.2 percent more than in 1944.

UNITED

Marking a record expansion in cargo operations, mail ton-miles carried by UAL increased 54 percent in March while express volume was up 44 percent over a year ago. Estimated mail ton-miles totaled 2,040,160 as compared with 1,323,938 in March, 1944. UAL's express ton-miles totaled approximately 467,674 for the past month and 325,099 a year ago.

WESTERN

Western's report for 1944 shows a net profit after taxes of $135,827. Seventy-four percent of the company's income was derived from passenger revenue; 20 percent from mail revenue; and six percent from express, freight, and miscellaneous sources.

A total of 147,854 revenue passengers were carried by WAL last year, as compared with 69,791 in 1941; 77,801 in 1942, and 80,907 in 1943. The 1944 figure for revenue passenger miles flown came to 63,073,101 as contrasted with 22,892,281 in 1941; 24,393,816 in 1942; and 32,589,240 in 1943.

[REG. U. S. PAT. OFF.]

International Express and Mail Tables

Express rates quoted are from U. S. International airport of departure and are based on the prevailing tariffs, airport to airport. Shippers are warned, however, that they are subject to change.

Bb—Bangor, Me.
Bro—Brownsville, Tex.
Bw—Boston, Mass.
Cg—Chicago
Cub—Cut Bank, Mont.
Dl—Dallas
Eo—El Paso
Fv—Fort Worth
Gf—Grand Forks, N. D.
Jg—Burlington Vt.
Lgs—Los Angeles
Lo—Laredo
Mia—Miami
No—New Orleans
Nyk—New York
Sa—San Antonio
Sq—San Diego
Ste—Seattle

International Air Express is subject to two charges: one a charge per pound weight or measurements at carrier's option (200 cu. in. to the pound of weight), the other a charge per $100 of valuation. The two must be added on any shipment to determine the cost. Neither includes insurance, which may be purchased by the shipper from the carrier or otherwise.

Priorities: The air carriers warn all shippers that express traffic, both U. S. Government and commercial, is so heavy that no guarantee can be given that any shipment will depart on any particular plane unless it enjoys U. S. priority. Otherwise it will depart in relation to other shipments, in the order received at the international airport used, subject to wartime limitations. Pick-up service without extra charge is available for all international air express, except shipments routed through American Export Airlines. For shipments forwarded via Pan American Airways, a "Shipper's Letter of Instructions" is prepared and accompanies shipment to local REA office, where the PAA Airwaybill is prepared. (On cargoes to be shipped via American Export Airlines, Inc., shippers should contact "Shipper's Service," Room 922, 25 Broadway, New York. HAnover 2-9144.)

International air carriers whose schedules and rates are included here are indicated by the letter following the symbol for the airport:

A—American Airlines.
B—Braniff Airways.
C—Colonial Air Lines.
E—American Export Airlines.
EA—Express Aero Inter-Americano, S. A.
K—KLM-Royal Dutch Air Lines.
NE—Northeast Airlines.
NW—Northwest Airlines, Inc.
P—Pan American Airways System and affiliates.
T—Trans-Canada Air Lines.
U—United Air Lines.
W—Western Air Lines.

LATIN-AMERICA LINES

Destination	U. S. Gateway & Airline	RATES Per Lb.	RATES Per $100 Value	Depart	Mail per ½ Oz.
Antilla, Cuba	Mia P	.24	.17	Dly	.10
Antofagasta, Chile	Mia P	1.26	.45	Su,M,W,F,Sa	.20
"	No P	1.34	.45	Su,M,W,F,Sa	.20
"	Bro P	1.34	.45	Su,T,Th,F,Sa	.20
"	Lgs P	1.95	.45	M,W,Th,F,Sa	.20
Aracaju, Brazil	Mia P	1.26	.45	Th,Sa	.20
"	No P	1.71	.45	W,F	.20
"	Bro P	1.71	.45	T,Th	.20
"	Lgs P	2.28	.60	M,W	.20
Areia Branca, Brazil	Mia P	1.24	.45	T,W,Sa	.20
"	No P	1.56	.45	M,T,F	.20
"	Bro P	1.56	.45	Su,M,Th	.20
"	Lgs P	2.13	.45	Su,W,Sa	.20
Arequipa, Peru	Mia P	1.23	.45	Dly	.15
"	No P	1.26	.45	Dly	.15
"	Bro P	1.26	.45	Dly	.15
"	Lgs P	1.93	.45	Dly	.15
Arica, Chile	Mia P	1.25	.45	Su,M,W,F,Sa	.20
"	No P	1.26	.45	Su,M,W,F,Sa	.20
"	Bro P	1.26	.45	Su,T,Th,F,Sa	.20
"	Lgs P	1.94	.45	M,W,Th,F,Sa	.20
Aruba, N. W. I.	— P	via Curacao, N. W. I.			...
"	Mia K	.71	.45*	W,Sa	.25
Asuncion, Para	Mia P	1.73	.45	Su,W	.20
"	No P	1.86	.45	T,Sa	.20
"	Bro P	1.86	.45	M,F	.20
"	Lgs P	2.43	.60	Su,Th	.20
Bahia, Brazil (*See Sao Salvador*)					
Balboa, Canal Zone	Mia P	.76	.35	Dly	.10
"	No P	.90	.35	Dly	.10
"	Bro P	.90	.35	Dly	.10
"	Lgs P	1.45	.45	Dly	.10
Baracoa, Cuba	Mia P	.28	.20	Dly	.10
Barcelona, Venezuela	Mia P	.85	.35	Dly	.15
"	No P	1.17	.45	Dly	.15
"	Bro P	1.17	.45	Dly	.15
"	Lgs P	1.78	.45	Dly	.15
Barranquilla, Colombia	Mia K	.85	.50*	Sa	.25
via Kingston	Mia P	.61	.35	Su,T,W,F	.25
via Balboa	Bro P	1.03	.35	Dly	.25
"	No P	1.03	.35	Dly	.25
"	Lgs P	1.59	.45	Dly	.25
Bauru, Brazil	Mia P	1.58	.45	M,Sa	.20
"	No P	1.71	.45	Su,F	.20
"	Bro P	1.71	.45	Th,Sa	.20
"	Lgs P	2.28	.65	W,F	.20
Belem, Brazil	Mia P	1.13	.45	Dly	.20
"	No P	1.34	.45	Dly	.20
"	Bro P	1.34	.45	Dly	.20
"	Lgs P	1.95	.45	Dly	.20
Bello-Horizonte, Brazil	Mia P	1.65	.45	Su,M,W,F,Sa	.20

Destination	U.S. Gateway & Airline	RATES Per Lb.	RATES Per $100 Value	Depart	Mail per ½ Oz.
Belle-Horizonte, Brazil	Mia P	1.65	.45	Su,M,W,F,Sa	.20
	No P	2.13	.45	Su,T,Th,F,Sa	.20
	Bro P	2.13	.45	M,W,Th,F,Sa	.20
	Lgs P	2.69	.60	Su,T,W,Th,F	.20
Bonaire, N.W.I.	— P	via Curacao, N. W. I.			
	Mia K	.75	.45*	W,Sa	.25
Buenos Aires, Argentina	Mia P	1.56	.45	Dly	.20
	No P	1.70	.45	Dly	.20
	Bro P	1.70	.45	Dly	.20
	Lgs P	2.26	.60	Dly	.20
Cali, Col. via Balboa	Mia P	.89	.35	Dly	.25
	No P	1.03	.35	Dly	.25
	Bro P	1.03	.35	Dly	.25
	Lgs P	1.59	.45	Dly	.25
Camaguey, Cuba	Mia P	.26	.20	Thrice Dly	.10
	Mia K	.20	.25*	W,Sa	.10
Campeche, Mexico	Mia P	.41	.20	Dly	.10
	No P	.41	.20	Dly	.10
	Bro P	.51	.35	Dly	.10
	Lgs P	1.00	.35	Dly	.10
Campo Grande, Brazil	Mia P	1.48	.45	Mo,W,Sa	.20
	No P	1.61	.45	Su,T,F	.20
	Bro P	1.61	.45	M,Th,Sa	.20
	Lgs P	2.18	.45	Su,M,F	.20
Canavieiras, Brazil	Mia P	1.33	.45	Th, Sa	.20
	No P	1.81	.45	W,F	.20
	Bro P	1.81	.45	T,Th	.20
	Lgs P	2.38	.60	M,W	.20
Caracas, Venezuela (*See La Guaira*)					
Caravellas, Brazil	Mia P	1.36	.45	T,W	.20
	No P	1.85	.45	M,T	.20
	Bro P	1.85	.45	Su,M	.20
	Lgs P	2.41	.60	Su,Sa	.20
Cayenne, Fr. Guiana	Mia P	1.02	.35	Dly	.15
	No P	1.26	.45	Dly	.15
	Bro P	1.26	.45	Dly	.15
	Lgs P	1.91	.45	Dly	.15
Cayo Mambi, Cuba	Mia P	.26	.20	Dly	.10
Chetumal, Mexico	Mia P	.55	.35	M,W,Sa	.10
	No P	.55	.35	Su,T,Th	.10
	Bro P	.55	.35	Su,T,Th	.10
	Lgs P	1.04	.35	M,W,Sa	.10
Chiclayo, Peru	Mia P	1.11	.45	Dly	.15
	No P	1.19	.45	Dly	.15
	Bro P	1.19	.45	Dly	.15
	Lgs P	1.81	.45	Dly	.15
Cienfuegos, Cuba	Mia P	.20	.17	Su,T,W,Th,F	.10
C. del Carmen, Mexico	Mia P	.45	.20	Dly	.10
	No P	.45	.20	Dly	.10
	Bro P	.47	.85	Dly	.10
	Lgs P	.94	.35	Dly	.10
Ciudad Trujillo, D. R.	Mia P	.45	.20	Thrice Dly	.10
	Mia K	1.12	.50*	Sa	.10
Cochabamba, Bolivia	Mia P	1.26	.45	M,W,Sa	.20
	No P	1.35	.45	M,W,Sa	.20
	Bro P	1.35	.45	Su,T,F	.20
	Lgs P	1.95	.45	M,Th,Sa	.20
Concepcion, Bolivia	Mia P	1.31	.45	Sa	.20
	No P	1.45	.45	Sa	.20
	Bro P	1.45	.45	F	.20
	Lgs P	2.03	.45	Th	.20
Cordoba, Argentina	Mia P	1.49	.45	Dly	.20
	No P	1.63	.45	Dly	.20
	Bro P	1.63	.45	Dly	.20
	Lgs P	2.19	.45	Dly	.20
Coro, Venezuela	Mia P	.74	.35	Dly	.15
	No P	1.11	.45	Dly	.15
	Bro P	1.11	.45	Dly	.15
	Lgs P	1.69	.45	Dly	.15
Corumba, Brazil	Mia P	1.41	.45	M,Sa	.20
	No P	1.56	.45	Su,F	.20
	Bro P	1.56	.45	Th,Sa	.20
	Lgs P	2.13	.45	W,F	.20
Cristobal, Canal Zone	Mia P	.76	.35	Dly	.10
	No P	.92	.35	Dly	.10
	Bro P	.92	.35	Dly	.10
	Lgs P	1.46	.45	Dly	.10

Destination	U.S. Gateway & Airline	RATES Per Lb.	RATES Per $100 Value	Depart	Mail per ½ Oz.
Cuenca, Ecuador	Mia P	1.06	.35	Su,W,F	.15
	No P	1.15	.45	Su,W,F	.15
	Bro P	1.15	.45	T,Th,Sa	.15
	Lgs P	1.76	.45	M,W,F	.15
Curacao, N. W. I.	Mia P	.73	.35	Dly	.10
	No P	.93	.35	Dly	.10
	Bro P	1.11	.45	Dly	.10
	Lgs P	1.73	.45	Dly	.10
	Mia K	0.73	.45*	W,Sa	.10
Curityba, Brazil	Mia P	1.80	.45	Su,M,W,	.20
	No P	2.00	.45	Su,T,Sa	.20
	Bro P	2.00	.45	M,F,Sa	.20
	Lgs P	2.58	.60	Su,Th,F	.20
David, Panama	Mia P	.82	.35	Dly	.10
	No P	.85	.35	Dly	.10
	Bro P	.85	.35	Dly	.10
	Lgs P	1.38	.45	Dly	.10
Esmeraldas, Ecuador	Mia P	.99	.35	M	.15
	No P	1.11	.45	M	.15
	Bro P	1.11	.45	Su	.15
	Lgs P	1.71	.45	Sa	.15
Florianopolis, Brazil	Mia P	1.63	.45	Sa	.20
	No P	2.11	.45	F	.20
	Bro P	2.11	.45	Th	.20
	Lgs P	2.68	.60	W	.20
Fort de France, Martinique	Mia P	.71	.35	F,Sa	.10
	No P	1.00	.35	Su,F	.10
	Bro P	1.16	.45	Th,Sa	.10
	Lgs P	1.78	.45	W,F	.10
Fortaleza, Brazil (Ceara)	Mia P	1.23	.45	M,T,W,Th,Sa	.20
	No P	1.54	.45	Su,M,T,W,F	.20
	Bro P	1.54	.45	Su,M,T,Th, Sa	.20
	Lgs P	2.10	.45	Su,M,W,F,Sa	.20
Georgetown, British Guiana	Mia P	.90	.45	Su,F,Sa	.15
	No P	1.24	.45	Th,F,Sa	.15
	Bro P	1.24	.45	W,Th,F	.15
	Lgs P	1.88	.45	T,W,Th	.15
Guadalajara, Mexico	Bro P	.43	.20	Dly	.15
	Lgs P	.59	.35	Dly	.10
Guantanamo, Cuba	Mia P	.28	.20	Dly	.10
Guatemala City, Gua	Mia P	.74	.35	Dly	.10
	No P	.53	.35	Twice Dly	.10
	Bro P	.53	.35	Dly	.10
	Lgs P	1.08	.45	Dly	.10
Guayaquil, Ecuador	Mia P	1.04	.35	Dly	.10
	No P	1.15	.45	Dly	.15
	Bro P	1.15	.45	Dly	.15
	Lgs P	1.75	.45	Dly	.15
Havana, Cuba	Mia P	.20	.17	Thrice Dly	.10
	MiaEA	.20	.18	Twice Dly	.10
Hermosillo, Mexico	Lgs P	.24	.17	Dly	.10
Iguassu Falls, Brazil	Mia P	1.69	.45	Su,W	.20
	No P	1.91	.45	T,Sa	.20
	Bro P	1.91	.45	M,F	.20
	Lgs P	2.48	.60	Su,Th	.20
Ixtepec, Mexico	Mia P	.76	.35	M,T,W,Th, F,Sa	.40
	No P	.76	.35	Su,T,W,Th, F,Sa	.10
	Bro P	.41	.20	Su,T,W,Th, F,Sa	.10
	Lgs P	.89	.35	Su,T,W,Th, F,Sa	.10
Joao Pessoa, Brazil (Cabedello)	Mia P	1.25	.45		.20
	No P	1.64	.45		.20
	Bro P	1.64	.45		.20
	Lgs P	2.20	.45		.20
Kingston, Jamaica	Mia P	.39	.20	Dly	.10
	Mia K	.35	.35*	W	.10
La Guaira, Venezuela	Mia P	.75	.35	Dly	.15
	Mia K	.75	.45*	W,Sa	.15
	No P	1.15	.45	Dly	.15
	Bro P	1.15	.45	Dly	.15
	Lgs P	1.75	.45	Dly	.15
La Paz, Bolivia	Mia P	1.25	.45	M,T,W,Th,Sa	.20
	No P	1.30	.45	M,T,W,Th,Sa	.20
	Bro P	1.30	.45	Su,M,T,W,F	.20
	Lgs P	1.95	.45	Su,M,T,Th,Sa	.20

Destination	U. S. Gateway & Airline	RATES Per Lb.	RATES Per $100 Value	Depart	Mail per ½ Oz.
Lima, Peru	Mia P	1.18	.45	Dly	.15
"	No P	1.24	.45	Dly	.15
"	Bro P	1.24	.45	Dly	.15
"	Lgs P	1.88	.45	Dly	.15
Loja, Ecuador	Mia P	1.08	.45	Su,W,F	.15
"	No P	1.17	.45	Su,W,F	.15
"	Bro P	1.17	.45	T,Th,Sa	.15
"	Lgs P	1.78	.45	M,W,F	.15
Maceio, Brazil	Mia P	1.26	.45	M,T,Th,Sa	.20
"	No P	1.68	.45	Su,M,W,F	.20
"	Bro P	1.68	.45	Su,T,Th,Sa	.20
"	Lgs P	2.24	.45	M,W,F,Sa	.20
Managua, Nicaragua	Mia P	.86	.35	Dly	.10
"	No P	.71	.35	Twice Dly	.10
"	Bro P	.71	.35	Dly	.10
"	Lgs P	1.22	.45	Dly	.10
Manaos, Brazil	Mia P	1.24	.45	Su,W,F	.20
"	No P	1.56	.45	T,Th,Sa	.20
"	Bro P	1.56	.45	M,W,F	.20
"	Lgs P	2.13	.45	Su,T,Th	.20
Manta, Ecuador	Mia P	1.03	.35	W,F	.15
"	No P	1.14	.45	W,F	.15
"	Bro P	1.14	.45	T,Th	.15
"	Lgs P	1.74	.45	M,W	.15
Manzanillo, Cuba	Mia P	.26	.20	Dly	.10
Maracaibo, Venezuela	Mia P	.69	.35	Dly	.15
"	Mia K	.75	.45*	W,Sa	.15
"	No P	1.08	.45	Dly	.15
"	Bro P	1.08	.45	Dly	.15
"	Lgs P	1.66	.45	Dly	.15
Maturin, Venezuela	Mia P	.89	.35	Dly	.15
"	No P	1.19	.45	Dly	.15
"	Bro P	1.19	.45	Dly	.15
"	Lgs P	1.80	.45	Dly	.15
Mazatlan, Mexico	Bro P	.57	.35	Dly	.10
"	Lgs P	.45	.20	Dly	.10
Medellin, Colombia (via Barranquilla)	Mia P	1.06	.35	M,T,W,F,Sa	.25
Medellin, Colombia (via Balboa)	Mia P	1.06	.35	M,T,W,F,Sa	.25
"	No P	1.10	.45	M,T,W,F,Sa	.25
"	Bro P	1.10	.45	Su,M,T,Th,F	.25
"	Lgs P	1.65	.45	S,M,W,Th,Sa	.25
Mendoza, Argentina	Mia P	1.41	.45	Su,M,W,F,Sa	.20
"	No P	1.55	.45	Su,M,W,F,Sa	.20
"	Bro P	1.55	.45	Su,T,Th,F,Sa	.20
"	Lgs P	2.11	.45	M,W,Th,F,Sa	.20
Merida, Mexico	Mia P	.37	.20	Dly	.10
"	No P	.37	.20	Twice Dly	.10
"	Bro P	.55	.35	Dly	.10
"	Lgs P	1.04	.35	Dly	.10
Mexicali, Mexico	Lgs P	.20	.17	Dly	.10
Mexico City, Mexico	Mia P	.64	.35	Dly	.10
"	No P	.64	.35	Dly	.10
"	Dl B	.40	.17	Dly	.10
"	Bro P	.26	.20	Dly	.10
"	Lgs A	.67	.35	Dly	.10
"	Lgs P	.67	.20	Dly	.10
"	Lo B	.26	.17	Dly	.10
Mexico City, Mexico	Fv A	.40	.20	Dly	.10
"	Eo A	.42	.20	Dly	.10
"	Sa A	.33	.20	Dly	.10
"	Sa B	.33	.17	Dly	.10
Minatitlan, Mexico	Mia P	.53	.35	Dly	.10
"	No P	.53	.35	Dly	.10
"	Bro P	.39	.20	Dly	.10
"	Lgs P	.86	.35	Dly	.10
Monterrey, Mexico	Fv A	.27	.20	Dly	.10
"	Dl B	.27	.17	Dly	.10
"	Eo A	.34	.20	Dly	.10
"	Lgs A	.62	.20	Dly	.10
"	Lo B	.13	.15	Dly	.10
"	Sa A	.20	.17	Dly	.10
"	Sa B	.20	.15	Dly	.10
Montevideo, Uruguay	Mia P	1.60	.45	Su,M,W,F	.20
"	No P	1.74	.45	Su,T,Th,Sa	.20
"	Bro P	1.74	.45	M,W,F,Sa	.20
"	Lgs P	2.30	.60	Su,T,Th,F	.20
Nassau, Bahamas	Mia P	.20	.17	Dly ex Su	.10
Natal, Brazil	Mia P	1.25	.45	M,T,Th,Sa	.20
"	No P	1.61	.45	Su,M,W,F	.20
"	Bro P	1.61	.45	Su,T,Th,Sa	.20
"	Lgs P	2.18	.45	M,W,F,Sa	.20
Nuevo Laredo, Mexico	Dl B	.22	.17	Dly	.10
"	Fv B	.22	.17	Dly	.10
"	Sa B	.15	.15	Dly	.10
"	Lo B	.08	.05	Dly	.10
Oaxaca, Mexico	Mia P	.73	.35	M,W,Sa	.10
"	No P	.73	.35	M,W,Sa	.10
"	Bro P	.35	.20	Su,T,Th	.10
"	Lgs P	.81	.35	M,W,Sa	.10
Oruro, Bolivia	Mia P	1.26	.45	M,T,W,Th,Sa	.20
"	No P	1.33	.45	M,T,W,Th,Sa	.20
"	Bro P	1.33	.45	S,M,T,W,F	.20
"	Lgs P	1.95	.45	Su,M,T,Th,Sa	.20
Panama City, Panama	(*See Balboa, C.Z.*)				
Para, Brazil (*See Belem*)					
Paramaribo, Sur	Mia P	.97	.35	Dly	.15
"	Mia K	1.14	.60*	Sa	.15
"	No P	1.25	.45	Daily	.15
"	Bro P	1.25	.45	Dly	.15
"	Lgs P	1.90	.45	Dly	.15
Parnahyba, Brazil	Mia P	1.21	.45	W	.20
"	No P	1.48	.45	T	.20
"	Bro P	1.48	.45	M	.20
"	Lgs P	2.04	.45	Su	.20
Point a Pitre, Guadeloupe	Mia P	.66	.35	Sa	.10
"	No P	.98	.35	Su	.10
"	Bro P	1.14	.45	Sa	.10
"	Lgs P	1.74	.45	F	.10
Port au Prince, Haiti	Mia P	.37	.20	Thrice Dly	.10
"	Mia K	.39	.35*	Sa	.10
Port of Spain, Trinidad	Mia P	.79	.35	Dly	.10
"	Mia K	.91	.55*	W,Sa	.10
"	No P	1.20	.45	Dly	.10
"	Bro P	1.20	.45	Dly	.10
"	Lgs P	1.81	.45	Dly	.10
Porto Alegre, Brazil	Mia P	1.70	.45	Su,M,W,F,Sa	.20
"	No P	2.19	.45	Su,T,Th,F,Sa	.20
"	Bro P	2.19	.45	M,W,Th,F,Sa	.20
"	Lgs P	2.75	.60	Su,T,W,Th,F	.20
Preston, Cuba	Mia P	.24	.17	Dly	.10
Puerto Suarez, Bolivia	Mia P	1.41	.45	Sa	.20
"	No P	1.56	.45	Sa	.20
"	Bro P	1.56	.45	F	.20
"	Lgs P	2.13	.45	Th	.20
Quito, Ecuador	Mia P	.97	.35	Dly	.15
"	No P	1.09	.45	Dly	.15
"	Bro P	1.09	.45	Dly	.15
"	Lgs P	1.68	.45	Dly	.15
Recife (Pernambuco), Brazil	Mia P	1.26	.45	M,T,Th,Sa	.20
"	No P	1.65	.45	Su,M,W,F	.20
"	Bro P	1.65	.45	Su,T,Th,Sa	.20
"	Lgs P	2.21	.45	M,W,F,Sa	.20
Rio de Janeiro	Mia P	1.50	.45	Su,M,W,F,Sa	.20
"	No P	1.98	.45	Su,T,Th,F,Sa	.20
"	Bro P	1.98	.45	M,W,Th,F,Sa	.20
"	Lgs P	2.54	.60	Su,T,W,Th,F	.20
Robore, Bolivia	Mia P	1.38	.45	Sa	.20
"	No P	1.51	.45	Sa	.20
"	Bro P	1.51	.45	F	.20
"	Lgs P	2.08	.45	Th	.20
Salinas, Ecuador	Mia P	1.05	.35	W,F	.15
"	No P	1.15	.45	W,F	.15
"	Bro P	1.15	.45	T,Th	.15
"	Lgs P	1.75	.45	M,W	.15
Salta, Argentina	Mia P	1.30	.45	T,Th,Sa	.20
"	No P	1.45	.45	T,Th,Sa	.20
"	Bro P	1.45	.45	M,W,F	.20
"	Lgs P	2.03	.45	Su,T,Th	.20
San Ignacio, Bolivia	Mia P	1.33	.45	Sa	.20
"	No P	1.48	.45	Sa	.20
"	Bro P	1.48	.45	Fr	.20
"	Lgs P	2.04	.45	Th	.20
San Jose, Bolivia	Mia P	1.35	.45	Sa	.20
"	No P	1.50	.45	Sa	.20
"	Bro P	1.50	.45	F	.20
"	Lgs P	2.08	.45	Th	.20

* These rates are only due if consignments are shipped with declared value.

Destination	U. S. Gateway & Airline	RATES Per Lb.	RATES Per $100 Value	Depart	Mail per ½ Oz.
San Jose, Costa Rica	Mia P	.89	.35	Dly	.10
"	No P	.76	.35	Twice Dly	.10
"	Bro P	.76	.35	Dly	.10
"	Lgs P	1.31	.45	Dly	.10
San Juan, Puerto Rico	Mia P	.53	.35	Thrice Dly	.10
San Salvador, El Salvador	Mia P	.79	.35	Dly	.10
"	No P	.61	.35	Twice Dly	.10
"	Bro P	.61	.35	Dly	.10
"	Lgs P	1.14	.45	Dly	.10
Santa Cruz, Bolivia	Mia P	1.28	.45	M,W,Sa	.20
"	No P	1.43	.45	M,W,Sa	.20
"	Bro P	1.43	.45	Su,T,F	.20
"	Lgs P	1.99	.45	M,Th,Sa	.20
Santiago, Chile	Mia P	1.38	.45	Su,M,W,F,Sa	.20
"	No P	1.51	.45	Su,M,W,F,Sa	.20
"	Bro P	1.51	.45	Su,T,Th,F,Sa	.20
"	Lgs P	2.08	.45	Su,M,W,Th, F,Sa	.20
Santiago, Cuba	Mia P	.26	.20	Dly	.10
Sao Luis, Brazil	Mia P	1.19	.45	M,T,Th,Sa	.20
"	No P	1.43	.45	Su,M,W,F	.20
"	Bro P	1.43	.45	Su,T,Th,Sa	.20
"	Lgs P	1.99	.45	M,W,F,Sa	.20
Sao Paulo, Brazil	Mia P	1.55	.45	Su,M,W,F,Sa	.20
"	No P	2.04	.45	Su,T,Th,F,Sa	.20
"	Bro P	2.04	.45	M,W,Th,F,Sa	.20
"	Lgs P	2.60	.60	Su,T,W,Th,F	.20
Sao Salvador, Brazil (Bahia)	Mia P	1.28	.45	M,T,W,Th,Sa	.20
"	No P	1.76	.45	Su,M,T,W,F	.20
"	Bro P	1.76	.45	Su,M,T,Th,Sa	.20
"	Lgs P	2.33	.60	Su,M,W,F,Sa	.20
St. Johns, Antigua					
British West Indies	Mia P	.64	.35	Sa	.15
"	No P	.96	.35	Sa	.15
"	Bro P	1.13	.45	Su	.15
"	Lgs P	1.73	.45	Sa	.15
St. Thomas, V. I.	Mia P	.57	.35	Fr	.10
"	No P	.90	.35	Sa	.10
"	Bro P	1.10	.45	Su	.10
"	Lgs P	1.68	.45	Sa	.10
Talara, Peru	Mia P	1.08	.45	F	.15
"	No P	1.17	.45	Dly	.15
"	Bro P	1.17	.45	Dly	.15
"	Lgs P	1.79	.45	Dly	.15
Tampico, Mexico	Bro P	.20	.17	Dly	.10
"	Lgs P	.81	.35	Dly	.10
Tapachula, Mexico	Mia P	.74	.35	Dly	.10
"	No P	.74	.35	Dly	.10
"	Bro P	.53	.35	Dly	.10
"	Lgs P	1.02	.35	Dly	.10
Tegucigalpa, Honduras	Mia P	.82	.35	Dly	.10
"	No P	.68	.35	Dly	.10
"	Bro P	.68	.35	Dly	.10
"	Lgs P	1.18	.45	Dly	.10
Tres Lagoas, Brazil	Mia P	1.53	.45	T,Sa	.20
"	No P	1.66	.45	M,F	.20
"	Bro P	1.66	.45	Su,Th	.20
"	Lgs P	2.23	.45	Sa,W	.20
Tucuman, Argentina	Mia P	1.34	.45	T,Th,Sa	.20
"	No P	1.49	.45	T,Th,Sa	.20
"	Bro P	1.49	.45	M,W,F	.20
"	Lgs P	2.05	.45	T,Th,Sa	.20
Turbo, Colombia (via Barranquilla)	Mia P	1.06	.35	Su,T,W,F	.25
Turbo, Colombia (via Balboa, C. Z.)	Mia P	1.06	.35	Su,T,W,F	.25
"	No P	1.10	.45	M,T,F,Sa	.25
"	Bro P	1.10	.45	Su,M,Th,F	.25
"	Lgs P	1.65	.45	Su,M,Th,Sa	.25
Tuxpan, Mexico	Bro P	.20	.17	Dly	.10
"	Lgs P	.83	.35	Dly	.10
Tuxtla Gutierrez, Mexico	Mia P	.81	.35	M,W,Sa	.10
"	No P	.81	.45	M,W,Sa	.10
"	Bro P	.45	.20	Su,T,F	.10
"	Lgs P	.93	.35	M,W,Sa	.10

Destination	U. S. Gateway & Airline	RATES Per Lb.	RATES Per $100 Value	Depart	Mail per ½ Oz.
Uyuni, Bolivia	Mia P	1.26	.45	T,Th	.20
"	No P	1.38	.45	T,Th	.20
"	Bro P	1.38	.45	M,W	.20
"	Lgs P	1.95	.45	Su,T	.20
Veracruz, Mexico	Mia P	.57	.35	Dly	.10
"	No P	.57	.35	Daily	.10
"	Bro P	.33	.20	Dly	.10
"	Lgs P	.79	.35	Dly	.10
Victoria, Brazil	Mia P	1.41	.45	Th,Sa	.20
"	No P	1.90	.45	W,F	.20
"	Bro P	1.90	.45	T,Th	.20
"	Lgs P	2.46	.60	M,W	.20
Villahermosa, Mexico	Mia P	.49	.35	Dly	.10
"	No P	.49	.35	Dly	.10
"	Bro P	.43	.20	Dly	.10
"	Lgs P	.90	.35	Dly	.10

NOTE: Charges Collect and C. O. D. Services have been resumed to Pan American Airways Airports in the following countries: Canal Zone—Costa Rica—Cuba—Dominican Republic—El Salvador—Guatemala—Haiti—Honduras—Panama Republic—Puerto Rico—Surinam—Trinidad—Venezuela—Virgin Islands; also charges collect (no C. O. D.) service to Nicaragua.

ATLANTIC LINES

Bathurst, Gambia, Africa	Nyk E	2.67	.45	.....	...
Bolama, Portuguese Guinea, Africa		2.66	.45	Fortnightly	.60
Botwood, Newfoundland	Nyk P	.81	.35	Thrice wk May-Oct.	.15
Botwood, Newfoundland	Nyk E	.81	.35	Thrice wk May-Oct.	.15
Dakar, Senegal, Africa		2.36	.45	Fortnightly	.45
England via Foynes*	Nyk E	(Rates	on	Application)	.30
" "	Nyk P	(Rates	on	Application)	.30
Foynes, Eire via Botwood	Nyk P	1.78	.45	Thrice wk	.30
" " via Lisbon	Nyk P	2.00	.50	Fortnightly	.30
" " via Botwood or Direct	Nyk E	1.78	.45	.....	.30
Hamilton, Bermuda	Nyk P	.55	.20	Thrice fortnightly	.10
Horta, Azores	Nyk P	1.70	.35	Fortnightly	.30
Lisbon, Portugal	Nyk P	2.00	.45	Fortnightly	.30
Monrovia (Fisherman's Lake), Liberia		2.67	.45	Fortnightly	.50
Port Lyautey, French Morocco	Nyk E	2.00	.45	.....	...
Scotland via Foynes*	Nyk E	(Rates	on	Application)	.30
" "	Nyk P	(Rates	on	Application)	.30
Shediac, N. B.	Nyk P	.51	.20	Thrice wk	.06
Sweden, via Foynes	Nyk E	(Rates	on	Application)	
Wales via Foynes*	Nyk E	(Rates	on	Application)	.30
" "	Nyk P	(Rates	on	Application)	.30

ALASKA LINES

Aniak	Alaska	Ste P	1.08	.35	Th	.08
Bethel,	"	Ste P	1.11	.35	Th	.08
Burwash Landing	"	Ste P	.72	.35	Daily	.08
Fairbanks	"	Ste P	.90	.35	Dly	.08
Flat	"	Ste P	1.05	.35	Th	.08
Galena	"	Ste P	1.00	.35	Su,T Th	.08
Juneau	"	Ste P	.56	.35	Daily	.08
Lake Minchumina	"	Ste P	.95	.35	Th	.08
McGrath	"	Ste P	1.00	.35	Th	.08
Moses Point	"	Ste P	1.07	.35	Th	.08
Nome	"	Ste P	1.11	.35	Su,T,Th	.08
Tanacross	"	Ste P	.81	.35	Dly	.08
Tanana	"	Ste P	.95	.35	Su,T,Th	.08
Whitehorse, Canada		Ste P	.66	.35	Dly	.08

CANADIAN LINES

			Note			
Calgary, Alb.	Nyk T	1.02	†	Dly	.04
Edmonton, Alb.	Nyk T	1.06	†	Dly	.04
Halifax, N. S.	Nyk T	.31	†	Dly	.04
Lethbridge, Alb.	Nyk T	.88	†	Dly	.04
"	CubW	.04	†	Dly	.04
London, Ont.	Nyk T	.22	†	Dly	.04
Moncton, N. B.	BbNE	.06	†	Dly	.04
Montreal, Que.	Nyk C	.12	†	Dly	.04
"	Nyk T	.12	†	Dly	.04
"	Jg NE	.12	†	Dly	.04

Destination	U.S. Gateway & Airline	RATES Per Lb.	RATES Per $100 Value	Depart	Mail per ½ Oz.
North Bay, Ont.	Nyk T	.27	†	Dly	.08
Ottawa, Ont.	Nyk T	.18	†	Dly	.08
Regina, Sask.	Nyk T	.80	†	Dly	.08
St. John, N. B.	Nyk T	.31	†	Dly	.08
St. Johns, N. F.	Nyk T	.58	†	Dly	.08
Sydney, N. S.	Nyk T	.36	†	Dly	.08
Toronto, Ont.	Nyk A	.16	†	Dly	.08
"	Nyk T	.16	†	Dly	.08
Vancouver, B. C.	Ste U	.04	†	Dly	.08
"	Nyk T	.96	†	Dly	.08
Windsor, Ont.	Nyk A	.20	†	Dly	.08
"	Cg A	.12	†	Dly	.08
"	Nyk T	.20	†	Dly	.08
Winnipeg, Man.	GfNW	.04	†	Dly	.08
"	Nyk T	.00	†	Dly	.08

* British Overseas Airways Corp. carries from Foynes, Ireland to destinations in England, Scotland, and Wales.

† Canadian air express is carried on the same basis as air express within the U. S.: $50 declared value free; excess charged at 10 cents per $100 or fraction thereof.

NOTE: Per pound rate shown in this column is based on the average package weighing 25 lbs., i.e.: 1 lb. package from New York to Ontario would cost $1 and 25 lbs. $4. Average cost per lb.: 16¢.

Scale of Rates Generally in Use in American Marine Insurance Markets for Mail and Air Shipments

Replacing Schedule Dated January 22, 1945

A—Registered Mail, excluding Registered Air Mail and Air Express Rates by Registered Mail:

Non-negotiable securities (warranted full value declared for insurance)—37½% of Cargo Rates. Securities (except as provided above), documents and similar interest —75% of Cargo Rates.

Currency including jewelry, precious stones, precious metals, etc., also miscellaneous cargo—100% of Cargo Rates.

B—Registered Air Mail and/or Air Express and/or other shipments by air: Western Hemisphere (excluding shipments between points in Continental United States and/or Canada except as noted below)

	All classes of property
1. Sendings between points in Western Hemisphere not south of a line between Lima on the West Coast of South America and Paramaribo on the North Coast of South America	7½c%
EXCEPT	
United States or Canada to from West Indies including Bermuda and Bahamas	5c%
West Indies to West Indies	5c%
United States or Canada to from Mexico and Central America (including Canal Zone)	5c%
United States or Canada to from Prince Edward Island, Newfoundland	5c%
United States or Canada to from Victoria, B. C.	5c%
United States or Canada to from Alaska not west of the railroad between Seward and Fairbanks, also between places in Alaska, not west of the railroad between Seward and Fairbanks	5c%
United States or Canada to or from places in Alaska west of the railroad between Seward and Fairbanks (excluding Aleutian Islands)	10c%
U. S., Canada or Alaska to from Aleutian Islands	15c%
United States or Canada to from Hawaii	10c%
Hawaiian interisland shipments by Air (including shipments by bombers)	10c%

2. Sendings between points in Western Hemisphere south of a line between Lima on the West Coast of So. America and Paramaribo on the North Coast of So. America	7½c%	
3. Sendings from points in North America to points on the West Coast of So. America south of Lima, and vice versa	10c%	
4. Sendings from points in No. America to points on the East Coast of So. America south of Paramaribo, and vice versa	10c%	

U. S. or Canada to or from: Europe and Iceland	(a)*	(b)*
1. Lisbon	10c%	20c%
Rates add'l to above for connecting air service, Lisbon to from Spain	⅛%	¼%
2. British Isles or Eire	⅛%	¼%
3. Iceland and Greenland	17½c%	35c%
Africa		
1. North Africa not east of Tripoli	20c%	40c%
2. West Africa not north of Dakar and South Africa	10c%	20c%
Near East		
1. Egypt	¼%	½%
2. Arabia, Palestine, Syria, Cyprus, Turkey, Greece, Iran, Iraq	⅜%	¾%
Asia		
1. Afghanistan	½%	1%
2. India	½%	1%
3. Chungking	1%	2%

* (a) All Classes of Securities.
* (b) All other Property.

C—Ordinary Parcel Post, Government Insured Parcel Post, Registered Post, Ordinary Mail (Excluding Air Mail)

(A) United States or Canada to from Australasia, Hawaiian and other Pacific Islands —Transpacific Cargo Rate.

(B) U. S. to from United Kingdom, Eire, Portugal, Spain, Africa, Near East, Far East Newfoundland, Iceland, Greenland, Bermuda—Cargo Schedule Rate to from New York but with respect to shipments to or from Spain under policies endorsed with the airborne clause, the Lisbon rate will be charged plus an additional charge of 50% of the connecting Air Service rate quoted in Section (B) because of the possibility that shipments of valuables may go forward to or from interior points by Air.

(C) U. S. West of Rockies to from Costa Rica, Panama, Panama Canal Zone, Colombia, Ecuador, Peru, Bolivia and Chile—Cargo Schedule Rate for Pacific voyages to from San Francisco.

(D) U. S. West of Rockies to from Venezuela, Guianas, Brazil, Paraguay, Uruguay, Argentina—Cargo Schedule Rate via Panama to from San Francisco.

(E) U. S. East of Rockies to from Costa Rica, Panama, Panama Canal Zone, So. America, West Indies (except Bermuda)—Schedule Rate to from U. S. Gulf.

(F) *U. S. West of Rockies to from Mexico—25% of Schedule Cargo Rate for Pacific voyages to from San Francisco.
*U. S. East of Rockies to from Mexico—25% of Schedule Cargo Rate to from United States Gulf.

(G) U. S. to from British Honduras, Guatemala, Republic of Honduras, El Salvador and Nicaragua—Cargo Schedule Rate for voyages between U. S. Gulf and East Coast Central America.

* Note: Reduced percentage provided assured agrees to pay this percentage on all shipments; otherwise individual shipments on Facultative Basis.
Cargo Schedule Rate for Pacific voyages to from San Francisco
Cargo Schedule Rate to from United States Gulf
Rates in this Section are not subject to revision, either upward or downward, should be actual route of the shipments become known.

D—Express (Excluding Air Express)—Charge Cargo War Risk Schedule Rates.

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